SCIENCE LIBRARY

Equipment Buyers' Directory

JAN 17 1931

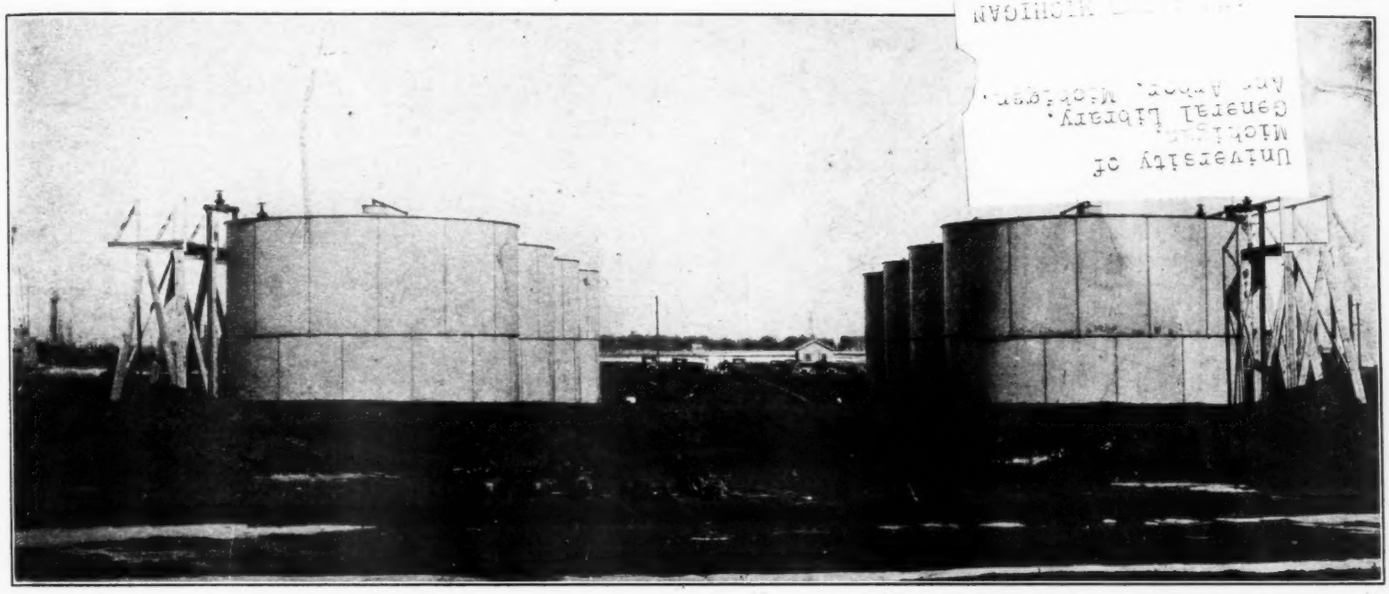
15 Cents

The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERI NG

Published Every Thursday TULSA, OKLAHOMA, JANUARY 15, 193 Year

University of Michigan
General Library
Ann Arbor, Michigan



Eight 1,000-Bbl. Maloneys erected in the Oklahoma City Field by Maloney Sales Corp., distributers.

If a Shopper Never Picked Up Her Change—

She'd waste a lot of money. And that's exactly what many oil producers do when they allow valuable vapors to be breathed out of their lease tanks.

Maloney VAPOR-PRESSURE Tanks

eliminate breathing losses—which are more serious than many producers realize—and increase the income from the lease. Study our vapor-pressure construction and you'll understand how these tanks conserve the oil and why they stand up exceptionally long.

Features of Our Vapor-Pressure Construction:

Not less than 12-gauge rust-resisting Keystone Copper Steel—heavy 2" angle ties and reinforcements—half-inch heat-treated bolts—few seams in decks and bottoms—efficient valves set at 16-oz. pressure and 2-oz. vacuum—high grade aluminum paint.

MADE OF KEYSTONE AMERICAN

Maloney A. P. I. Bolted Steel Tanks conform with A.P.I. dimensional standards and carry the official A. P. I. monogram.

Packed in Steel-Bound Crates for Export

"Alone in Quality"

MALONEY TANK MFG. COMPANY

Tulsa, Okla., U.S.A.

Distributers at All Principal Petroleum Points

MALONEY

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

Advertisers' Index on Page 57 Table of Contents on Page 58

HARDEST DRILLING in U.S. MADE EASIER

at Kettleman

One of the Kettleman Hills' wells, showing the drill pipe in foreground equipped with Bettis Protectors.

At Kettleman Hills, the toughest drilling area in the U. S., where formidable obstacles are encountered, Bettis Protectors are indeed a necessity. Several of the wells have required eight or nine months of hardest drilling inside of the casing—a condition that would make drilling costs prohibitive were it not for Bettis Protectors. All active Kettleman wells are Bettis-equipped.

PATTERSON-BALLAGH CORPORATION

Insurance Exchange Building, Los Angeles

Texas and Gulf Coast Distributors: **Bettis Sales Co.**, 917 Merchants & Mfrs. Bldg., Houston

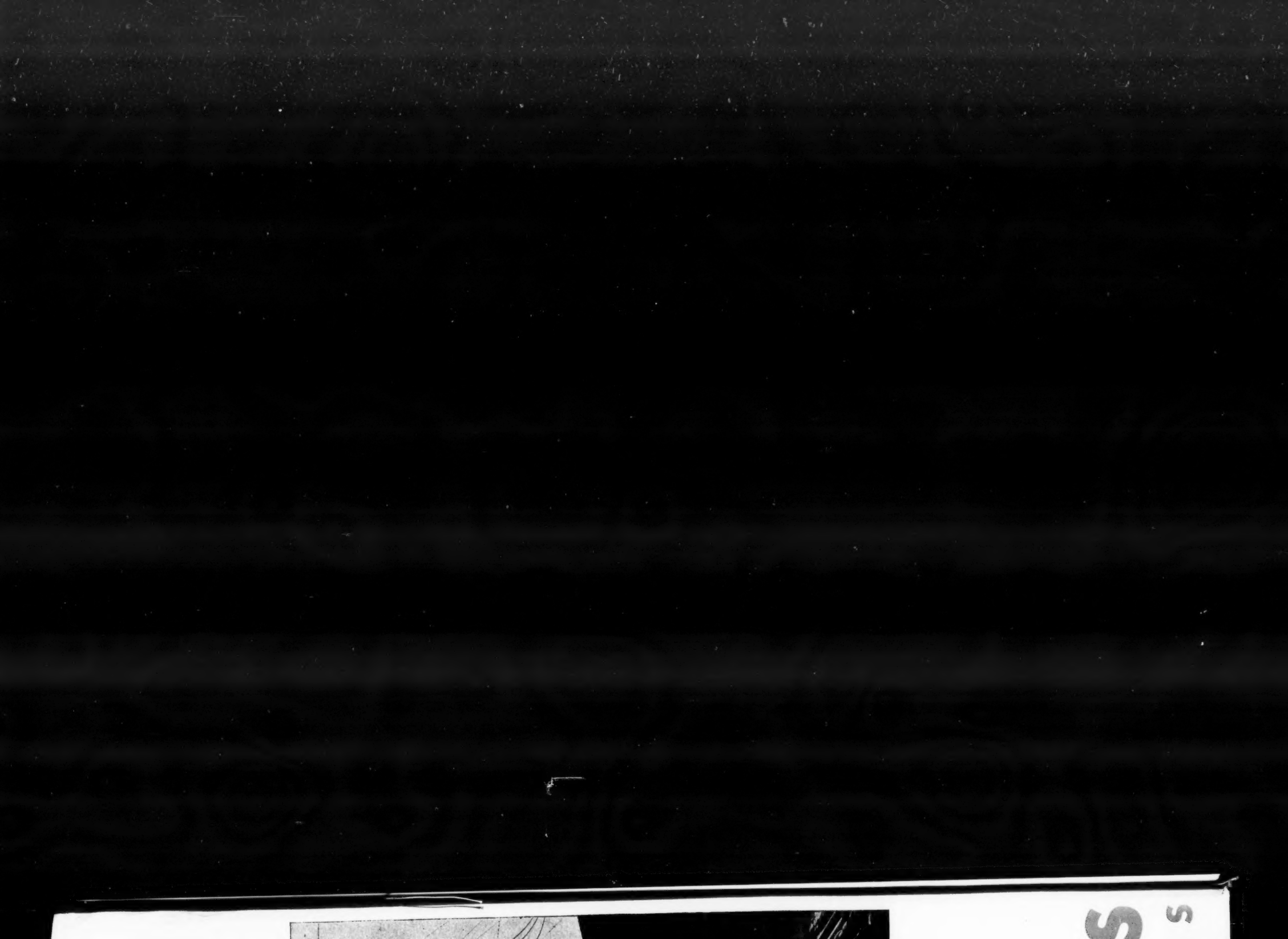
Oklahoma Distributors: **Bailey and Becker Company**, 410 Thompson Bldg., Tulsa

New York Office: 39 Cortlandt Street

Carried in stock at Los Angeles, Ventura, Kettleman Hills, Bakersfield, Coalinga and Long Beach, California; Tulsa and Oklahoma City, Oklahoma; Houston, Texas; Hobbs, New Mexico; Calgary, Alberta, Canada; New York City.

BETTIS PROTECTORS

and DRILL STABILIZERS



The ADVERTISERS' INDEX

A

Acme Fishing Tool Co. 190
Air Preheater Corp., The .....
Ajax Iron Works 74-75
Alco Products, Inc. .....
Alco Tool Co., Ltd. .....
Allegheny Steel Co. .....
Allen Corp., The 151
Alling Blue Print Co. .....
Allis-Chalmers Mfg. Co. 7
Allis, Louis, Co., The 39
Allsteel Products Mfg. Co., Inc., The...
Aluminum Co. of America 81
American Askania Corp. .....
American Assn. of Petroleum Geologists.190
American Cable Co., Inc. .....
American Cast Iron Pipe Co. .....
American Iron & Machine Works Co..... 22
American La France & Foamite Corp....
American Meter Co. 56
American Radiator Co. 32
American Rolling Mill Co., The 90-91
American Schaeffer & Budenburg Corp...
American Sheet & Tin Plate Co. .....
American Stainless Steel Co. .....
American Steel & Wire Co. .....
American Steel Works .....
American Tank & Equipment Corp.....
American Telephone & Telegraph Co....
American Well Works, The 188
Anchor Post Fence Co. .....
Armstrong Brothers Tool Co. .....
Armstrong Machine Works .....
Athey Truss Wheel Co. 188
Automotive Distillate Corp. .....
Axelson Mfg. Co., Ltd. rp. .....
Ayer & Lord Tie Co. .....

B

Baash-Ross Tool Co. 48
Badger, E. B., & Sons Co. .....
Badgett Steam Lubricator Co. .....
Baker Oil Tools, Inc. 2
Baldwin-Duckworth Chain Corp. .....
Barber-Greene Co. .....
Barco Mfg. Co. .....
Barnes Mfg. Co., The .....
Barnickel, Wm. S., & Co. 53
Barnsdall Refineries, Inc. .....
Barrett Co., The .....
Bartlett Hayward Co., The .....
Bart Products Co. .....
Beaumont Iron Works Co., The .....
Benson & Henderson Pipe Line Construction Co. .....
Bessemer Engine Co. 122-123
Bethlehem Steel Co. .....
Biggs Boiler Works Co., The 37
Bigelow-Liptak Corp. .....
Bignall & Keeler Machine Works .....
Binks Mfg. Co. 29
Blackor Co. 187
Black, Sivalls & Bryson, Inc. .....
Black Wire Rope Co. .....
Bosch, Robert, Magneto, Inc. .....
Bradford Motor Works, Inc. 137
Braun, C. F., & Co. .....
Brewster Co., Inc., The .....
Bridgeport Machine Co. .....
Bristol Co., The .....
Broderick & Bascom Rope Co. .....
Broderick Co., The .....
Brown, Arthur C. 190
Brown Instrument Co. 6
Buckeye Traction Ditcher Co. 51
Buda Engine Service Co. of Tulsa .....
Burford Oil Co. .....
Butler, Chas. A., Mfg. Co. 147
Butler Mfg. Co. .....
Byers, A. M., Co. 89
Byers Machine Co. .....
Byron Jackson Co. .....Back Cover

C

California Talc Co. .....
Cameron Iron Works, Inc. .....
Campbell Co., J. A. 156
Carey, Philip, Co., The 9
Caterpillar Tractor Co. .....
Central Alloy Steel Corp. .....
Central Tube Co. .....
Chain Belt Co. .....
Champion & Barber, Inc. 8
Chaplin-Fulton Mfg. Co., The 153
Chapman Valve Mfg. Co., The .....
Chicago Bridge & Iron Works .....
Chicago Pneumatic Tool Co. .....
Cincinnati Advertising Products Co., The
Clark Brothers Co. 114-115
Classified Wants 166-167
Cleveland Trencher Co., The .....
Climax Engineering Co. .....
Colona Mfg. Co. .....
Columbian Rope Co. .....
Columbian Steel Tank .....
Columbus Forge & Iron Co., The .....
Consolidated Ashcroft Hancock Co., Inc. 34-35
Continental Equipment Co. .....
Continental Supply Co., The 127
Cooper, Bernard .....
Cooper-Bessemer Corp., The 122-123
Cooper, C. & G., Co., The 122-123
Coppus Engineering Corp. .....
Corona Silica, Inc. .....
Crane Co. 118-119

D

D. & B. Pump & Supply Co. .....
Darling Valve & Mfg. Co. 77
Dart, E. M., Mfg. Co. 190
Davis Regulator Co. .....
Dayton-Dowd .....
Dayton Rubber Mfg Co., The .....
Dearborn Chemical Co. 43
Deep Rock Oil Corp. .....
De Soto Foundry & Machine Co. .....
Devine Mfg. Co., Inc., J. P. .....
Dillon Co., The .....

D

Dixon Crucible Co., Joseph .....
Dodge Brothers Corp. .....
Doheny Stone Drill Co. .....
Donovan Boiler Works, Inc. .....
Dow Chemical Co., The .....
Drane-Humphrey Co., Inc. .....
Dresser & Gorton, Inc. .....
Dresser, S. R., Mfg. Co. 69
Driftmeter, Inc. 82
Dunn Brothers .....
Du Pont de Nemours & Co., Inc., E. I...

E

Eagle-Picher Lead Co. .....
Economy Pump & Oil Tool Co., The 136
Edeleanu Co., Ltd. .....
Edward Valve & Mfg. Co., The 42
Elliott Mfg. Co. .....
Electric Machinery Mfg. Co. .....
Empire Oil & Refining Co. .....
Emsco Derrick & Equipment Co. .....
Engineers Aerial Surveys .....
Ethyl Gasoline Corp. .....
Exchange Banks of Tulsa .....

F

Falk Corp., The .....
Fenwick-Reddaway Mfg. Co. 188
First National Bank & Trust, The .....
First National Bank & Trust Co. of Oklahoma City, The .....
Fisher Governor Co. 36
Fluor Corp., Ltd. .....
Foote Bros. Gear & Machine Co. 11
Fort Worth Chamber of Commerce.....
Foster Wheeler Corp. 170
Four-Wheel Drive Auto Co., The .....
Foxboro Co., Inc., The .....
Franklin Valveless Engine Co. 23
Freeman Mfg. Co. .....
Frick-Reid Supply Corp. 44-45

G

Gardner-Denver Co. .....
Garlock Packing Co., The .....
Gaso Pump & Burner Mfg. Co. .....
.....Inside Back Cover
Gates Rubber Co. .....
General American Tank Car Corp. 49
General Electric Co. 52
General Mfg. Co., The .....
General Paint Corp. .....
Gilbert & Barker Mfg. Co. .....
Girdler Corp., The 120
Globe Oil Tools Co. 107
Goodrich, B. F., Rubber Co., The .....
Goodyear Tire & Rubber Co. .....
Goslin-Birmingham Mfg. Co. 153
Gott, H. P., Mfg. Co., Inc. .....
Goulds Pumps, Inc. .....
Granger Indicator Co. 30
Granite City Steel Co. 148
Grant Oil Tool Co. .....
Graver Corp. .....
Gray Processes Corp., The .....
Grinnell Co., Inc. .....
Griscom-Russell Co., The 186
Guiberson Corp., The 79
Gulf Refining Co. .....

H

Halliburton Oil Well Cementing Co.....117
Hamer Oil Tool Co., Ltd. .....
Hanlon-Waters, Inc. .....
Harrisburg Pipe & Pipe Bending Co.....
Haynes Stellite Co. .....
Hazard Wire Rope Co. .....
Headley Emulsified Products Co. .....
Hedges-Walsh-Weidner Co., The 47
Heeter, Sons & Co., Inc., C. M. .....
Hercules Motors Corp. 10
Hercules Supply Co. .....
Hercules Tool Co. .....
Hewitt-Gutta Percha Co. 17
Heydrick Mapping Co. 190
Hill, Hubbell & Co. .....
Hills-McCanna Co. .....
Hood, H. H. .....
Hope Engineering Co. .....
Hopper Machine Works, Inc. .....
Hough, Charles N., Mfg. Co., The 148
Houston Ready-Cut House Co. 160
Hughes Tool Co. 111
Humble Oil & Refining Co. 155
Hyatt Roller Bearing Co. .....

I

Imperial Belting Co. .....
Imperial Royalties Co. 188
Improved Steel Gas Engine Head Co.....
Inferno Gas Burner Co. .....
Ingersoll-Rand Co. .....
International Derrick & Equipment Co., The .....
International Harvester Co. of America..
International Nickel Co., Inc., The ....
International Supply Co. .....

J

Jackson Co., Byron .....Back Cover
Jackson Engineering Corp. 105
Jacobson Commissary Co. 54
Jarecki Mfg. Co. .....
Jenkins Brothers 12
Jerguson Gage & Valve Co. .....
Jones & Laughlin Steel Corp. .....
Jones, The S. M., Co. .....

K

Kaw Steel Construction Co. .....
Kellogg, M. W., Co., The 188
Kelly, John Eoghan .....
Kennedy Valve Mfg. Co., The 189
Kerotest Mfg. Co. .....
Key Boiler Equipment Co. .....
Kingham Trailer Co., Inc. .....
Kirk-Morrow Iron Works, Inc. .....
Kohler Co. .....
Koppers Co., The .....

L

Landis Machine Co., Inc. 3
Larkin & Co. 189
Larkin Packer Co. .....
Layne & Bowler Co. .....
Leader Iron Works, Inc. .....
Le Bus Rotary Tool Works 151
Lees-Bradner Co. 55
Lemons, Inc., Henry L. .....
Leonard Construction Co. .....
Leschen, A., & Sons Rope Co. .....
Limbert & Co., George B. 188
Lincoln Electric Co. 13
Linde Air Products Co. 4
Link Belt Co. .....
Littleford Bros. Co. 160
Longyear, E. J., Co. .....
Lucey Products Corp. .....
Ludlow Valve Mfg. Co. .....
Lufkin Foundry & Machine Co., The ....
Lufkin Rule Co. .....
Lummus, The Walter E., Co. .....
Lunkenheimer Co., The 33

Mc

McAlear Mfg. Co., The .....
McClintic-Marshall Co. .....
McCord Radiator & Mfg. Co. .....
McEverlast, Inc. .....
McEvoy, J. H., & Co. .....
McEwan, A. J., & Co. .....
McIntosh & Seymour Corp. .....
McKee, Arthur G., & Co. .....

M

MacClatchie Mfg. Co. 133
Macwhyte Co. .....
Magnolia Petroleum Co. .....
Mair, D. S., Machinery Corp. 144
Maloney Tank Mfg. Co.....Front Cover
Marathon Oil Co. .....
Marion Machine Foundry & Supply Co...
Marsh Gauge Pole Co. .....
Martin-Decker Corp. .....
Mason Regulator Co. .....
Merco Nordstrom Valve Co. .....
Meriam Co., The .....
Metric Metal Works 56
Michigan Valve & Foundry Co. .....
Mid-Continent Map Co. .....
Midwest Piping & Supply Co., Inc. 87
Miller Sand Pump Co. .....
Moon Mfg. Co., The 150
Moore, Lee C., & Co., Inc. 134-135
Morris, I. P., & De La Vergne, Inc. ....
Moser Manufacturing Co. 154
Muller Co., The Jno. .....
Munn & Co. 190
Murray Tool & Supply Co. .....

N

National Airoil Burner Co. 108-109
National Equipment Corp. .....
National Lead Co. .....
National Supply Co. 130
National Tank Co. .....
National Tank Seal Co. .....
National Transit Pump & Machine Co. .. 67
National Tube Co. .....
Natural Gas Equipment Co. .....
Naylor Pipe Co. .....
Neilan Co., Ltd. .....
Nitrose Co., The 14
North American Car Corp. .....
Northwest Engineering Co. .....

O

Oakite Products, Inc. 160
O'Brien Steel Construction Co. .....
Ohio Injector Co., The .....
Oil Conservation Engineering Co., The. 46
Oil Countries Specialties Mfg. Co., The..
Oil and Gas Journal, The .....
Oil Well Improvements Co. .....
Oil Well Supply Co. 17
Oklahoma City Chamber of Commerce..
Oklahoma Contracting Co. .....
Oklahoma Gas & Electric Co. .....
Oliver United Filters Co. 161
Ottumwa Iron Works 151
Oxweld Acetylene Co. .....

P

Page Fence Assn. .....
Page Steel & Wire Co. .....
Panyity, L. S. .....
Parkersburg Machine Co. .....
Parkersburg Rig & Reel Co., The 113
Patrick, R. S. .....
Patterson-Ballagh Corp.—Inside Front Cover
Pattin Brothers Co. .....
Penberthy Injector Co. 71
Petroleum Engineering, Inc. .....
Petroleum Equipment Co. .....
Petroleum Iron Work Co. 132
Pforzheimer, Carl H., & Co. .....
Phillips Petroleum Co. .....
Pittsburgh-Des Moines Steel Co. 38
Pittsburgh Equitable Meter Co. 97-98
Pittsburgh Screw & Bolt Corp. .....
Pittsburgh Steel Products Co. .....
Plymouth Cordage Co. .....
Pomona Pump Co. .....
Powell, William, Co. 50
Power Piping Co. .....
Prescott Co., The 26
Pressed Steel Car Co. .....
Prest-O-Lite Co., Inc., The .....
Public Service Co. .....
Pure Oil Co., The 128
Pyle-National Co., The .....

R

Reading Iron Co. .....
Reading Steel Casting Co., Inc. 16
Reed Roller Bit Co. .....
Regan Forge & Engineering Co. 191
Reid, Joseph, Gas Engine Co. .....
Republic Steel Corp. .....
Republic Supply Co. 145

R

Robinson Orifice Fittings Co. .....
Ross-Meehan Foundries Co. 190

S

Safety Gas Main Stopper Co. 188
Scandinavian Belting Co. .....
St. Louis Cordage Mills 139
Schramm, Inc. .....
Sears Map & Blue Print Co. .....
Shaffer Tool Works .....
Shaw, S. F. .....
Sheldon Machinery Corp. .....
Sherwin-Williams Co. 27-41
Sinclair Refining Co. .....
Sivyer Steel Casting Co. .....
Skelly Oil Co. .....
Smith, A. O., Corp. 18-19
Smith Co., E. M. .....
Smith Separator Co. .....
Smooth-On Mfg. Co. .....
Soph, Edward .....
South Chester Tube Co. 31
Southern Cornice Works 188
Southwestern Construction Corp. 147
Southwestern Engineering Corp. .....
Sowers Manufacturing Co. .....
Spang & Co. .....
Spang, Chalfant & Co., Inc. .....
Spencer Trailer Co. .....
Spengler Tool Co. .....
Sperry-Sun Well Surveying Co. .....
Stacey Engineering Co., The 131
Star Drilling Machine Co. .....
Steiner, George .....
Sterling Steel Casting Co. .....
Stockham Pipe & Fittings Co. 138
Stoody Co. .....
Stork Engineering Co. .....
Strong, Carlisle & Hammond Co., The...
Strong Oil Tool Co. .....
Sullivan Co., The .....
Sullivan Machinery Co. .....
Sun Shipbuilding & Dryrock Co. 15
Superheater Co., The 85
Sureshot Torpedo Co. 188
Surface Equipment Co., Inc. 154
Swedish-American Prospecting Co. .....
Swindell-Dressler Corp. .....

T

Tagliabue, C. J., Mfg. Co. .....
Taubman Supply Corp. 192
Taylor Instrument Companies .....
Templeton, Kenly & Co., Ltd. .....
Terry Steam Turbine Co., The 20
Texas Electric Service .....
Texas Steel Co. 144
Thompson, J. D., Jr. .....
Timken Roller Bearing Co., The 93
Titusville Iron Works Co. .....
Toledo Pipe Threading Machine Co., The.153
Trackson Co. 40
Tretolite Co. 53
Trimont Mfg. Co. 31
Truscon Steel Co. .....
Tube Turns, Inc. .....
Tulsa Boiler & Machinery Co. .....
Tulsa Chamber of Commerce .....
Tulsa Sheet Metal Co. .....
Twin Disc Clutch Co. .....

U

Union Carbide & Carbon Corp. 4
U. S. Electrical Mfg. Co. .....
Union Wire Rope Co. .....
United Engineers & Constructors, Inc...
Universal Oil Products Co. 94-95
Utility Trailer Mfg. Co. .....

V

Vacuum Oil Co. .....
Velumoid Co., The .....
Vez Co., The .....
Vickers Machine Co. .....
Victaulic Co. of America .....
Victor Balata & Textile Belting Co.....
Victor Welding Equipment Co. .....
Vogel, Felix A. .....
Vogt, Henry, Machine Co. .....
Von Gemmingen, W. A. 190

W

Wagner Electric Corp. 24
Wailes, Dove-Hermiston Corp. .....
Wall Rope Works, Inc. .....
Walworth Co. 4
Warren Petroleum Co. .....
Washburne, Chester W. .....
Waukesha Motor Co. .....
Webster, C. W. .....
Wertzberger Derrick Co. .....
Westco-Chippewa Pump Co. .....
Westcott & Greis, Inc. .....
Westcott Valve Co. .....
Western Gas Construction Co., The ....
Westinghouse Electric & Mfg. Co., The..
Wheelton & Townsend, Inc., Ltd. .....
White Co., The .....
White Oak Refining Co. 152
Wickwire Spencer Steel Co. 25
Wico Electric Co. 28
Williams Brothers, Inc. .....
Williamsport Wire Rope Co. .....
Wilson-Snyder Mfg. Corp. .....
Wilson Welder & Metals Co., The .....
Winkler-Koch Engineering Co., The ....
W-K-M Co., The .....
Wood Shovel & Tool Co., The .....
Worthington Pump & Machy. Corp. 5
Wright Machine Co., Inc., The .....
Wright Manufacturing Co. .....
Wyatt Metal & Boiler Works .....

Y

Yale & Towne Mfg. Co. .....
Young Engine Corp. .....
Youngstown Sheet & Tube Co., The 124

Z

Zink, John 154

The Oil and Gas Journal

PRODUCING REFINING ENGINEERING MARKETING

VOL. 29. NO. 35. TULSA, OKLAHOMA, JANUARY 15, 1931

Copyright, 1931, by The Petroleum Publishing Co

Table of Contents

SPECIAL ARTICLES

Situation Firmer Despite Price Rumors 59
By Andrew M. Rowley
Differential considered for North Texas. East Texas development being watched. Producers entitled to higher prices.

Capper Bill Rejected as Invasion 61
By Thomas F. Smiley
Public service commissioners see infringement of state rights in gas line bill.

Governors Send Delegates to Washington Meeting 61

Concrete Coverings for Pipe Lines 62
By J. F. Hough
Technical data explaining experiments in protective covering.

Pipe Different Products in Same Line 63
By Robert Conine
Great engineering progress shown in Phillips gasoline line.

Would Abandoning Proration Be Cure? 64
Mid-Continent Oil and Gas Association presents an answer.

Institute Acts on Gasoline Tax Evils 64
By A. E. Mockler
Committee to investigate racketeering. Curtailment and pipe lines considered.

Shell and Standard Buy Dubbs Process 65
All patent litigation dropped following sale. Universal company to expand.

Development of Dubbs Process 65
President of Universal company reviews growth since 1913.

Theories in Oil's Origin Question 66
By L. G. E. Bignell
If organic theory is accepted supposition about accumulation is unsatisfactory.

A New Service (Editorial) 68

Announce Decision in Cracking Case 70
Judge Runyon decides in favor of Dubbs owners against Warner-Quinlan corporation.

F. A. Pielsticker Dies 70

Pipe Line Construction News 102

Oil Complication in the Argentine 103
By A. E. Bunge
Government participation, propaganda and new regime make outlook uncertain.

Petroleum Prospecting in Brazil 103
By Dr. Fred W. Freese

Field Problems and Their Solution 112
Edited by Thomas F. Smiley

Geological Map of New Pools in East Texas 116

Caught by The Journal's Camera 121

New Oil Legislation in Colombia 185

FIELD OPERATIONS

Late Fields 72

Oklahoma 73
By W. A. Spinney

Kansas 76
By W. A. Spinney

North Louisiana-Arkansas 78
By D. H. Bancroft

Gulf Coast 80
By Neil Williams

Rocky Mountain Area 83
By Tolbert R. Ingram

Canada 83
By Victor Lauriston

Southwest Texas 84
By B. D. Stevenson

California 86
By L. P. Stockman

Michigan 87
By Paul A. Elliott

West Texas 99
By L. E. Bredberg

North Texas and Panhandle 100
By L. E. Bredberg

East Central Texas 101
By L. E. Bredberg

Central West and Kentucky 126
By George A. Whitney

Eastern Fields 126
By Staff Correspondent

REFINING AND MARKETING

Small Advance in Gasoline Prices 60
By C. O. Willson
Better tone in Oklahoma market as less distress material is offered. Fuel oil situation improving.

Technical Questions Answered 125
By Dr. C. K. Francis

Of Interest to Sales Departments 149

Safe Handling of Aviation Fuels 149
By E. E. Aldrin

Stronger Gasoline Tone at Chicago 168
By J. B. Waldo

Greater Confidence in Eastern Market 169
By A. E. Mockler

Natural Gasoline Manufacture 171

Brief Items for Petroleum Refiners 172-173

Refinery and Crude Prices 174-175

Tank Wagon Quotations 176

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 57

Oil Industry Equipment and Supplies 92

Natural Gas Developments 96

Personal Paragraphs About Oil Men 110

Bureau of Mines Statistics for November 164

Classified Want Advertisements 166-167

Petroleum Securities Market 178-179

Equipment Buyers' Service:
Who Sells It 193-225
Where You Can Buy It 226-241

Crude Petroleum Statistics 242

BRANCH OFFICE CORRESPONDENTS

D. H. Bancroft, 538 Ricou Brewster Building, Shreveport, La.
L. E. Bredberg, 610 Petroleum Building, Fort Worth, Texas.
Paul A. Elliott, Chronicle Office, Muskegon, Mich.
Tolbert R. Ingram, 130 State Office Building, Denver, Colo.
Charles E. Kern, 602 Albee Building, Washington, D. C.
Victor Lauriston, Box 136, Chatham, Ontario, Canada.
B. E. V. Luty, Bessemer Building, Pittsburgh, Pa.
A. E. Mockler, Rooms 1919-21, No. 154 Nassau Street, New York, N. Y.
B. D. Stevenson, 1504 Milam Building, San Antonio, Texas.
L. P. Stockman, 522 Union Oil Building, Los Angeles, Calif.
F. B. Taylor, Box 994, Casper, Wyo.
John B. Waldo, Room 1416, No. 6 North Michigan Blvd., Chicago, Ill.
Leon H. Walter, Oil City Derrick, Oil City, Pa.
George A. Whitney, Box 98, Main Postoffice, Toledo, Ohio.
Neil Williams, 1316 Second National Bank Building, Houston, Texas.

Refinery Section Starts on Page 168

Situation Firmer Despite Price Rumors

Highest production in 1930, week ending Feb. 22, average daily output 2,699,096 bbls. Peak of U. S. production, week ending Aug. 24, 1929, average 2,975,435 bbls.

Differential Considered for North Texas. East Texas Development Watched. Producers Entitled to Higher Prices

By Andrew M. Rowley

Lowest daily average crude oil production in United States during 1930 was for week ending Dec. 27 with average output of 2,144,074 bbls.

A firmer tone is noticeable in both the crude and refined oil markets. Rumors of impending crude oil price reductions in Texas and the Mid-Continent areas probably are based on consideration being given the matter of a differential for North Texas. North Texas crude, when moved north, comes in competition with that produced in Oklahoma and Kansas and, when moved south, with that from West Texas and the Gulf Coast. It has been felt in many quarters a differential of about 10 cents a barrel under the price posted for Oklahoma and Kansas would place North Texas on a parity with the areas with which it competes and would help solve problems relating to excess production in that territory.

The industry is watching very carefully developments in East Texas and there is considerable talk that crude price reductions might result from the discoveries of prolific producing sections in that area. If East Texas is considered a menace to the general situation, it would appear to be entirely unfair to penalize operators in other fields who are endeavoring to hold production to market requirements in order to rectify what should be dealt with as a purely local situation.

There is some crude moving to market in North Texas under regularly posted prices, but latest information is to the effect the quantity is small—one estimate being about 18,000 barrels daily. With production curtailed below the figure recommended by the Committee on Economics of the American Petroleum Institute it seems such a comparatively small quantity of crude could be absorbed easily in order to protect the general crude market.

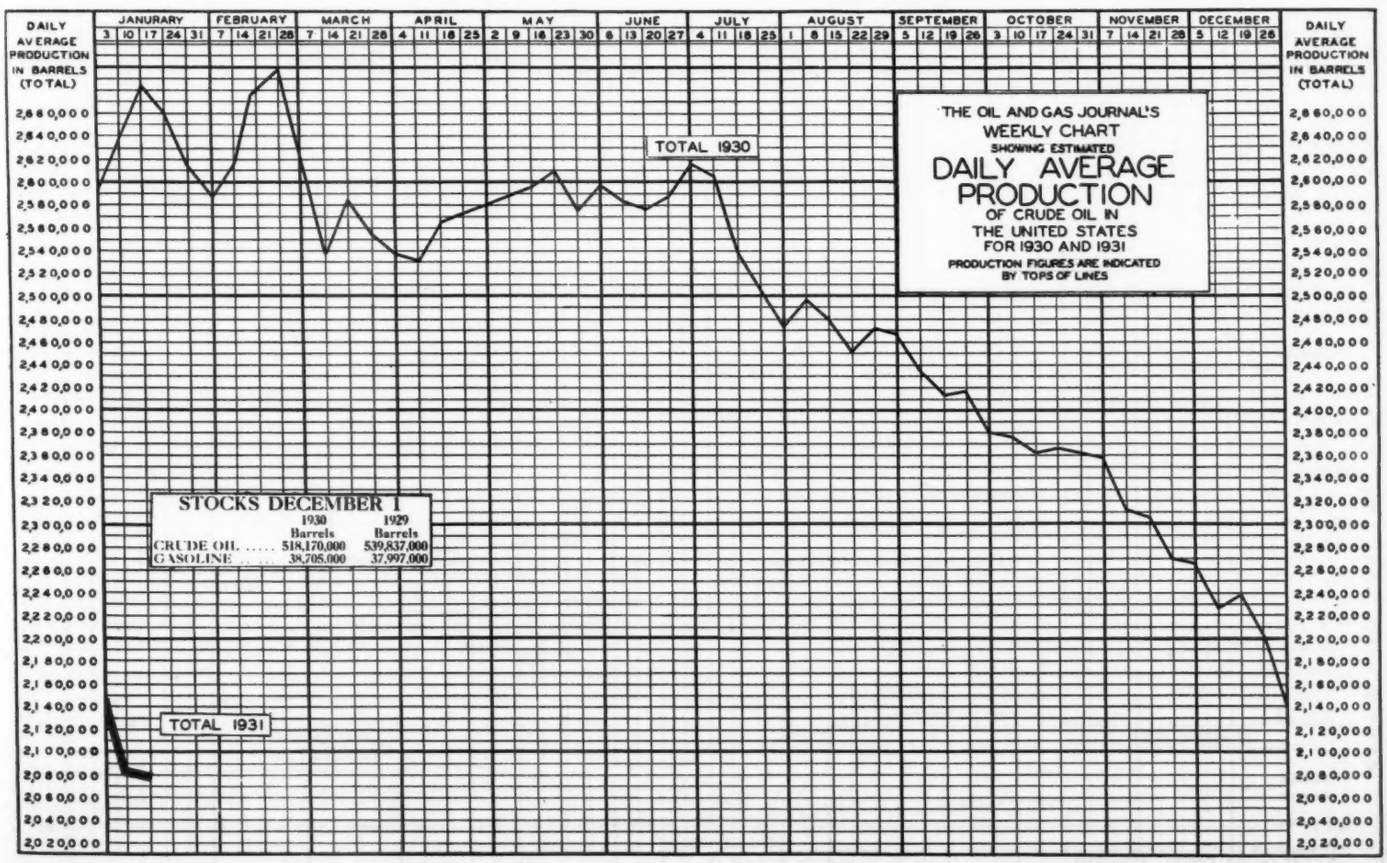
Any reductions in prices of crude oil at this time, aside from the differential for North Texas mentioned above, might have the opposite of the desired effect. Producers have curtailed production even more than recommended. They are entitled to higher prices for crude oil and believe higher prices have been warranted for some time. Any lowering of prices undoubtedly would make producers doubt more than ever the efficacy of the curtailment movement.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of crude oil in the United States for week ended January 10, and a comparison with the previous week follows:

	Jan. 10	Jan. 3
Oklahoma—		
Oklahoma City	94,810	86,545
Seminole-St. Louis	145,895	144,590
Remainder of State	216,235	217,610
Total Oklahoma	456,940	448,745
West Texas—		
Hendricks	53,990	54,410
Yates	94,540	94,915
Remainder	86,864	90,830
Total West Texas	235,394	240,155
North Louisiana	41,055	41,740
Arkansas	51,040	49,780
North Central Texas	90,807	91,203
Texas Panhandle	54,259	54,040
East Central Texas	42,337	40,955
Kansas	105,620	108,210
Total Mid-Continent area	1,077,452	1,074,828
Gulf Coast	176,966	178,575
Southwest Texas	87,716	86,415
Eastern	109,000	109,000
Rocky Mountain area	95,626	102,119
California—		
Santa Fe Springs	72,500	74,500
Long Beach	92,250	93,500
Playa Del Rey	37,500	39,000
Elwood	32,000	28,000
Ventura Avenue	44,000	45,000
Kettleman Hills	22,000	23,500
Remainder of State	234,000	235,000
Total California	534,250	538,500
Total United States	2,081,010	2,089,437

→ **Total Decrease 8,427 Bbls. Daily** ←



Small Advance in Gasoline Prices

Better Tone in Oklahoma Market as Less Distress Material Is Offered. Fuel Oil Situation Improving

By C. O. Willson

The better tone in the gasoline situation which has been in evidence in the Oklahoma (Group 3) market since late December resulted in small advances in practically all grades of refinery gasoline during the past week.

Resale U. S. Motor gasoline under 4 cents disappeared from the Oklahoma market last week and the first of this week this material was bringing a low of 4⅛ cents with sales to the trade being made on a basis of 4¼ to 5 cents. The higher gravities were also stronger in price, the advance in most cases being one-eighth cent.

Grades A and AA in the natural gasoline list also strengthened in price both grades being one-fourth cent higher than they were a week ago. The remaining grades continued to drag at a low of 2½ cents.

Little change was reported in other products. Price ranges in fuel oils are unchanged but more material is moving at the top prices. The low cold test grades regardless of gravity continue to enjoy a steady demand and with supplies limited a few refiners have advanced their prices from the low to the high of the prevailing quotations. Some of the high cold test material has been withdrawn from the market and the distress sales, characteristic of the December market are no longer reported. The same situation applies in the furnace oil distillates and gas oil. No improvement is reported in lubricants and wax.

The improvement in the gasoline price situation is apparently due to the curtailment programs in effect within the industry. As noted in these columns last week there has been improvement in the crude oil situation to the extent that some of the "bootleg" supply is no longer available to refiners.

A few refiners have been able to buy limited quantities of crude oil as much as 35 cents under the posted schedules which are the basis on which the majority of the larger and small refineries in the Mid-Continent buy their refinery requirements. The few refiners with the low priced crude in general have been the operators who have quoted the lowest prices on gasoline, their costs being so low that they could sell at 4 cents or less and supposedly show a profit on their plant operation. In the past two or three weeks several of the producers particularly in North Texas and the Texas Panhandle have been able to dispose of their excess crude oil through more favorable price outlets.

Oklahoma City Situation

In Oklahoma, the threatened large supply of crude oil at distress prices in the Oklahoma City Pool has failed to develop. Several small plants have been built or old plants reconditioned at Oklahoma City in expectation of crude oil under the posted schedules. With a strict enforcement of the proration plan in this field by the Oklahoma Corporation Commission, the supply of crude oil at distress prices has been temporary and not enough to supply only a small part of the refinery requirements.

The operators have had the choice of paying posted prices or shutting down their plants and most of them have been forced to take the latter course. It is doubtful if the owners of any of these plants can pay the posted price for crude oil and operate profitably. They are compelled to sell all their gasoline and other products on the spot market. Except for a limited local outlet, these refiners generally have to take the low of the prevailing spot market for their gasoline. The same situation obtains in regard to kerosene, gas oil and fuel oil residuum. The distillate, gas and fuel oil secured in a skimming operation have relatively high cold test and this grade material has been moving slowly at low prices. With proper equipment the residuum from the skimming operation can be manufactured into steam refined stock and this has been done by at least two of the Oklahoma City refiners. However, the market for this product is also limited and recent quotations have indicated that this operation is no longer profitable.

Thus it is apparent that so long as the proration plan is enforced the Oklahoma City situation is decreasing in importance as a menace to the refinery market.

Refinery Curtailment

In addition to the improved crude oil situation, market students believe that the

(Continued on Page 177)

REFINED MARKET BAROMETER

An improved refined market was reported from several areas the first of the week. The improvement was largely confined to gasolines although a better feeling in regard to fuel oils was apparent in some sections. The lowest price factors in the gasoline market of the Middle West and Mid-Continent have been able to advance their prices and a steady market was reported in the East and West Coast. Some grades of natural gasoline advanced in the Mid-Continent but the California market continued weak. Kerosene is sluggish but prices are being maintained. Furnace oil demand generally good. There has been less liquidation of lubricating stocks and wax but prices have shown no improvement.

Mid-Continent—Better tone to gasoline market with higher prices from many refiners. Kerosene weak. Fuel oil prices steady with good demand for low cold test material. Better grades of natural gasoline higher. Lubricants and wax weak. Distillates and gas oils steady.

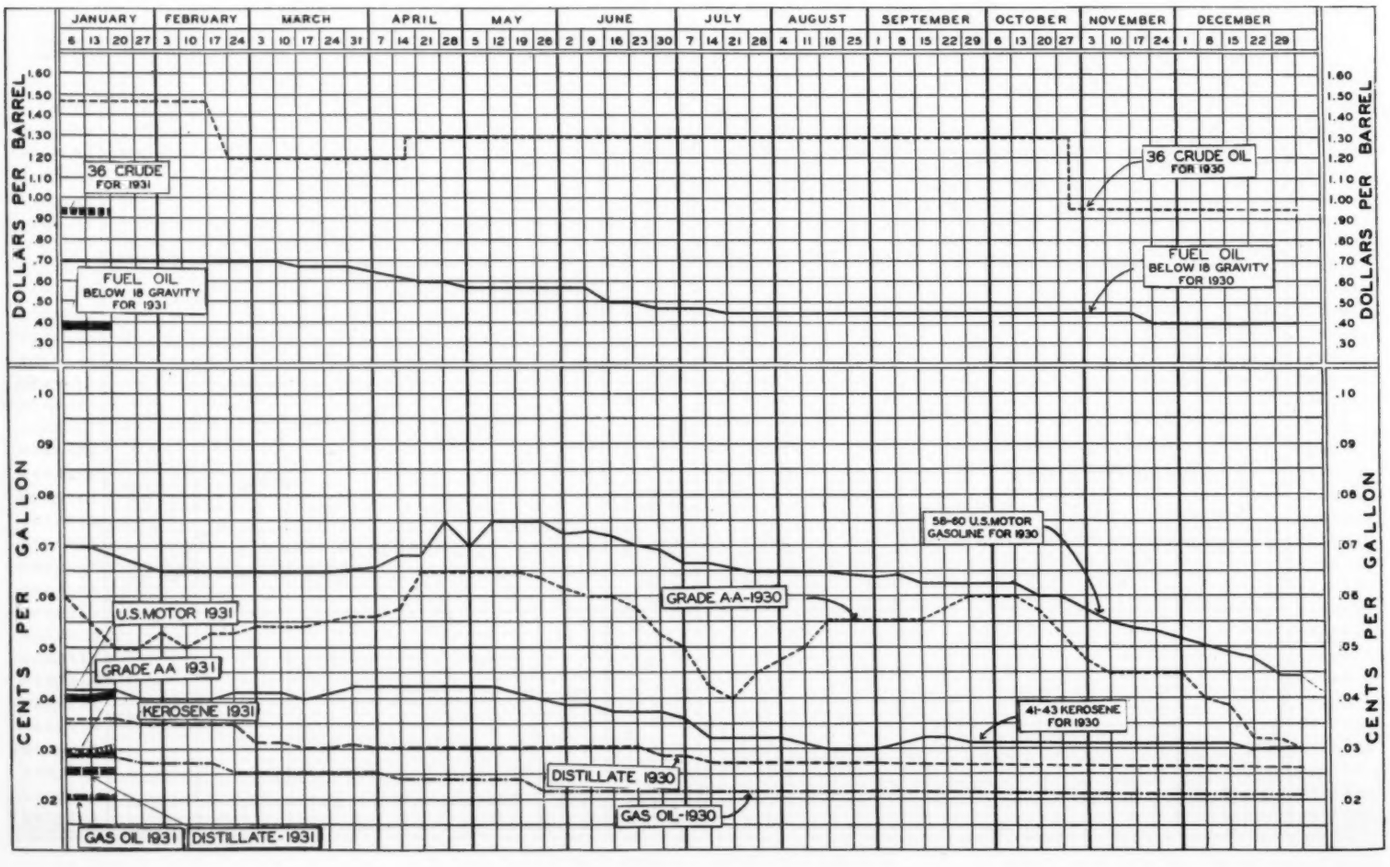
East Coast—Trading not active but better feeling among sellers in regard to probable future trends. Gasoline price advances of previous week maintained. Kerosene prices steady. Good movement of bunker C fuel oil and Diesel oil. No improvement in lubricating oils and wax.

Chicago—Better demand for gasoline and prices advanced. Furnace oil unchanged. Greater movement of industrial fuel oil. Kerosene continues slow. Gas oil demand light.

Gulf Coast—Gasoline market improves. Fuel oil prices unchanged following recent reduction. Routine demand for pale and red oils.

California—Improved crude oil situation due to curtailment reflected in refined market. No important price changes.

Pennsylvania—Prices on all products steady. Good demand for low cold test cylinder stocks.



Capper Bill Is Rejected As "Invasion"

Public Service Commissioners See Infringement of State Rights in Measure Seeking to Place Gas Under Federal Control

By Thomas F. Smiley

ST. LOUIS, Mo., Jan. 10.—Agreeing that the rights of states to control intrastate phases of the gas business are not properly safeguarded in the Capper bill, which seeks to "regulate interstate commerce by pipe line agencies operating in the purchase, production, distribution, sale or transportation of natural and artificial gas," public service commissioners of 12 states meeting in the Hotel Statler here yesterday voted to draft a substitute measure in which it is hoped to remove flaws pointed out in the one introduced in the United States Senate last month by Senator Arthur Capper, of Kansas. A committee to frame the substitute bill was appointed.

The meeting here was sponsored by Clinton H. Montgomery, of Kansas Public Service Commission, who with his fellow members of the commission and its legal counsel, framed the bill now bearing Senator Capper's name. Long-standing controversy over gas rates in Kansas cities is said to account for that State's initiation of the movement to subject gas pipe lines to Federal control.

States represented were Georgia, Indiana, Iowa, Kansas, Louisiana, Maryland, Michigan, Minnesota, Missouri, North Dakota, Oklahoma and Tennessee. All states in the Union had received invitations to be represented. Some replied that they were not interested in interstate aspects of the gas industry.

Mr. Montgomery was chosen chairman of the meeting and J. H. Porter, of Jefferson City, Mo., secretary. Mr. Montgomery explained that the public service commissioners throughout the country had been asked to attend to discuss the Capper bill and to take such action regarding it as might be decided upon. He requested Charles D. Shukers, of the Kansas commission, to relate something of the conditions which had resulted in introduction of the Capper bill.

Many Cases in Courts

"A large body of law relating to the transportation and sale of natural gas has been outlined by the courts as a result of litigation in various cases, especially in what has come to be known as the 'Kansas litigation,'" said Mr. Shukers. "In a case in Oklahoma it was sought to prevent the piping of natural gas to points outside the State. A law prohibiting such piping was passed. The courts held the law unconstitutional, in that the piping of gas was interstate commerce. Much litigation came later in Kansas, the cases reaching the Supreme Court of the United States, which upheld the doctrine that movement of gas from one state to another was not under the control of the states and that the state regulatory bodies had no control over prices asked for gas at the city gate."

Mr. Shukers told of similar litigation arising in Missouri which further emphasized the inability of public service commissions to regulate the prices charged by pipe line companies for gas delivered to distributing companies, which price must determine the rate charged the consumer.

Opposition to the Capper bill developed immediately after Mr. Shukers had returned to his seat. Even among those who favored some degree of Federal control of the gas pipe line business the belief was expressed that the Capper bill overshot the mark and if enacted into law would rob the states of rights which belonged to them. Hostility to any form of Federal interference whatever was expressed also.

"I don't want to see any law passed that will interfere with purely state functions," declared Francis Williams, of Baton Rouge, La., chairman of the Louisiana Public Service Commission. He referred to the fact that the bill under consideration sought to control by Federal authority the production of gas as well as its transportation. Production, Mr. Williams asserted, was a distinctly intrastate operation, which could not be placed in the hands of a Federal agency without inviting trouble in the courts besides arousing the indignation of those who wanted to see the rights of the states themselves preserved.

"A bill must be devised," said Mr. Williams, "which will regulate effectually those purely interstate features of the gas pipe line business over which the Supreme Court of the United States clearly has declared the authority of the state does not extend. I believe the Capper bill goes too far when it attempts to give a federal agency the authority to regulate the production of gas, which is intrinsically and essentially intrastate in character. I do not believe that the Capper bill in its present form absolutely and certainly safeguards the right of state control of every one of the intrastate phases of the gas business. It is not clear in my mind at this time just how this right of the states to control intrastate phases of public utilities can be fully protected. With me the preservation of such state control is of paramount importance."

Unusual Situation in Louisiana

Mr. Williams described an unusual situation in Louisiana which had resulted in the state losing control of the rates charged for gas in New Orleans, although the gas was produced in Louisiana. The pipe line carrying the gas from fields in the northern part of the State crosses the Mississippi River into Mississippi and then goes back into Louisiana before it enters New Orleans, in that way performing an interstate operation.

After remarking that he "never yet had seen a bill giving federal control that did not interfere with state rights," Robert H. Dunn of Lansing, Mich., said: "I believe I am authorized to say that Michigan is in favor of federal control if that control does not trespass on the rights of the state. I think the Capper bill is deficient in that it does not prescribe the authority of the proposed gas pipe line commission with sufficient clearness and does not preserve definitely the rights of the states."

MR. WEBSTER TELLS HIS ASSOCIATES ONE

While the commissioners were discussing the pros and cons of Federal control Charles Webster, of Iowa, was reminded of a story:

"An Iowa farmer was visited by his little niece from the city, who for the first time saw the operation of milking a cow. At the supper table that evening the farmer's wife remarked, 'Mary watched me do the milking. She saw Brindle give me a big bucket of milk.'

"'Give nothing!' Mary exclaimed. 'You had to squeeze it out of her.'

"And when you try to get relief out of a Federal agency that's the way you get it."

Milton R. Stahl of the Missouri Public Service Commission, an attorney, expressed the opinion that the whole problem under discussion would be settled if some agency could be set up with authority to fix the price of gas at the city gate. Chairman Montgomery said this view accorded with his own. Both Mr. Montgomery and Attorney Earl H. Hatcher, also a member of the Kansas commission, took occasion to say that though their commission had drafted the Capper bill there was no pride of authorship in the situation and they were desirous of obtaining the fullest possible expression of opinion.

Other Dangers Scented

B. M. Richardson, Des Moines, Iowa, said he believed there was no necessity of creating such a commission as is contemplated in the Capper bill. He could not see why everything that could be done by this commission with the sanction of the courts could not be done just as effectually by the Interstate Commerce Commision under its present powers. He was opposed to extending government by bureaus. Questioned later about his attitude toward some of the provisions of the Capper bill, Mr. Richardson indicated that a possible danger that lay in the proposed law was one which he believed inherent in all similar laws setting up commissions with great powers, namely that such commissions are easier to influence than is the Interstate Commerce Commission. He expressed concern too over certain aspects of that part of the Capper bill which provides for three commissioners at $10,000 a year each with virtually unlimited power to make appointments to its staff.

E. M. Price, Atlanta, Ga., rate expert for the Georgia Public Service Commission, said that in certain states of the South municipalities fixed the rates paid for gas and he was opposed to turning this function over to a federal agency. "We believe it should stay the way it is," he said, "or that the rates should be fixed by the state."

Attorney Paul A. Walker, Oklahoma City, special counsel for the Oklahoma Corporation Commission and newly installed member of that body, prefaced his remarks with the observation that he came from a state which formerly produced more natural gas than any other in the Union.

Doesn't Want His State Left Helpless

"What the pipe line companies really would like," said Mr. Walker, "is, of course, not merely freedom from interstate regulation, but freedom from all regulation, interstate and intrastate. I am opposed to the production of gas being taken over by the Federal Government. We have natural gas in Oklahoma that will supply the State for a generation, if it is conserved, but the minute we let the Federal Government step in and regulate the production of gas we shall be helpless. I don't want any federal agency to take over the control of production of gas. I want to see my State left in a position to protect itself. As a matter of law I don't believe the Federal Government can regulate the actual drilling of wells, but at the same time I don't want to take a chance. I am in favor of federal regulation of anything that needs regulation if the regulation can't be done by the state. But I am in favor of the state keeping every right it now possesses and of safeguarding, not jeopardizing, those rights."

"There is no use in kidding ourselves about this," said Harold E. West, chairman of the Maryland Public Service Commission. "The companies we are dealing with employ the finest legal talent there is in the land. We can't sit around a table here and write a law that will be certain to do what we expect of it. Any plan we might adopt would be subjected to the most rigid legal scrutiny." Mr. West warned against hasty action. "There is no chance of the Capper bill getting through the short session of Congress," he said, "and it would be unwise

(Continued on Page 182)

GOVERNORS NAME DELEGATIONS TO CONFERENCE AT WASHINGTON

WASHINGTON, D. C., Jan. 12.—Delegates are beginning to arrive for the meeting of oil operators called by Governor W. J. Holloway of Oklahoma and Governor Clyde M. Reed of Kansas to be held here Thursday, January 15, to discuss the situation in the oil industry. Wirt Franklin, president of the Independent Petroleum Association of America, has established his headquarters at the Mayflower Hotel where the meetings will be held.

Governor W. J. Holloway of Oklahoma, after consulting Governor-elect William H. Murray, named the following delegates to attend the conference and represent the State:

Wirt Franklin, Ardmore, chairman; Walter C. Dean, mayor; E. K. Gaylord, Carl C. Magee, W. R. Ramsey, all of Oklahoma City; E. B. Reeser, William N. Davis, Harry H. Smith, J. G. Cloud, George L. Watkins, mayor; Eugene Lorton, Richard Lloyd Jones, Harry H. Rogers, E. B. Howard, W. G. Skelly, George A. Dye, Alvin Richards, Pat Malloy, E. B. Lawson, Jay Hausen, J. M. Hayner and Russell B. Brown, all of Tulsa; Roy M. Johnson, Fred E. Tucker and Harold B. Fell, of Ardmore; Frank Phillips, H. V. Foster and Clarence E. Burlingame, of Bartlesville; T. T. Eason, Enid; Knox Garvin, Duncan; Ross D. Pine, Okmulgee; Dr. W. E. Grisso, Seminole; Peyton Brown, Blackwell; Eugene Aldridge, Wewoka; E. W. Marland, Ponca City; John B. Nichlos, Chickasha; A. B. Trumbo, Muskogee; P. A. Norris, Ada; William A. Warner and J. Wood Glass, Nowata; Joseph Ray, Chickasha; and J. B. Milam, Chelsea.

Governor Cylde M. Reed and Harry Woodring, governor-elect, announced the Kansas delegation as follows:

A. M. Landon, Independence, chairman; M. F. Jairs, Winfield; F. W. Black, Paola; George Bruce, E. V. Yinglin, Marvin Lee, A. L. Derby, W. M. Ainsworth, Roy Streeter, Ralph Pryor, Charles G. Yankey, Willis Hartman, Elmer Corn, Wichita; Harry Scott, Hutchinson; Harry Garden, Augusta; Ward McGinnis, S. J. Pollhamous, Eureka; Harold McGugin, Coffeyville; William D. Pratt, Fredonia; C. O. Ross, Coffeyville; Mike Shufflin, Coffeyville; C. M. Boggs, Arkansas City; T. E. Van Meter, Winfield; J. Edward Jones, Independence; Robert Bradford, Eldorado; W. B. Harrison, Wichita; Martin Baden, Winfield.

Texas Delegates

On recommendations of Tom E. Cranfill, president of the Independent Petroleum Association of Texas, Governor Moody of Texas named 60 oil operators from whom 25 will be chosen to represent the state producers. Those named follow: T. J. Mullin, J. A. Peering, R. B. Morris, George F. Hyer, T. E. Cran-

(Continued on Page 184)

Concrete Coverings for Pipe Lines

Technical Data Explaining Experiments Conducted in Concrete Protective Coverings. Basic Principles in Application

By J. F. Hough*

The application of a protective covering of concrete to pipe lines of any diameter is a practical method of defeating corrosion. Concrete for many years has been used and has endured in contact with the earth. In foundations and caissons for buildings, bridges and dams; in highways; in shaft linings for mines, and in tunnels through mountains and under rivers, concrete has resisted the elements in the earth and water that tend to destroy other materials in a relatively short period of time. This widespread use of concrete has brought it in contact with every type and kind of soil.

It has been the exceptional case where trouble has been encountered, and such trouble has usually been traced to failure to conform to certain basic principles in the manufacture or placement of the concrete.

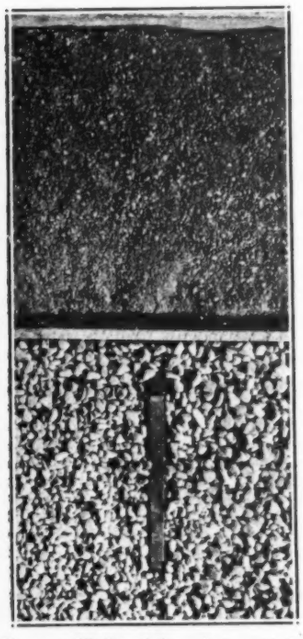


Figure 1—Well-graded sand, 0 to ¼ inch and gravel ¼ inch to ⅝ inch used in experimental concrete covering 1¼ inches thick.

Concrete can be made that will endure under the most severe conditions that are likely to prevail in any soil. That the chemical action caused by sulphates and acids existing in the ground can be resisted successfully by properly designed concrete has been established by a comprehensive series of tests begun in 1921.

Some 2,000 concrete cylinders 10 inches in diameter and 24 inches long were placed in sulphate soils and waters at Montrose, Colo., and Medicine Lake, S. D. These sites were selected as offering the most severe conditions to be found, and could not readily be improved upon as sites for accelerated tests. The severity of the exposure is increased by winter conditions that prevail and the resulting frost action on the specimens.

Table 1 gives the chemical analyses of water from the two field sites. The specimens used covered the widest range in quality of concrete (lean to rich mixtures, wet to dry consistencies, poorly graded to well-graded aggregates, etc.). After seven years' exposure the concrete specimens, without surface coatings and made with a water-cement ratio of 5 gallons or less per sack of cement, showed only minor surface attacks. Specimens having a water-cement ratio higher than 8¼ gallons per sack of cement were completely disintegrated after four years' exposure. Intermediate water-cement ratios produced results proportional to the two mentioned above.

*Assistant manager, structural and technical bureau, Portland Cement Association.

TABLE 1—CHEMICAL ANALYSIS, PARTS PER MILLION

	Total solids	Ignited solids	Calcium (Ca)	Magnesium (Mg)	Sulphate (SO_4)	Chloride (Cl)	SO_4 calc to $MgSO_4$	SO_4 calc to Na_2SO_4
Medicine Lake, S. D.—								
High	53,100	55,200	2,590	8,330	41,500	810	52,100	....
Low	46,600	31,500	390	4,640	23,900	540	30,000	.....
Average (6 samples)	50,240	43,240	860	6,000	31,100	650	39,250	.....
Montrose, Colo.—								
High	144,000	134,000	590	4,400	89,400	2,230	.....	132,300
Low	32,100	29,600	370	1,400	19,400	1,900	.....	28,700
Average (16 samples)	87,500	80,400	490	3,350	50,800	2,060	.....	75,800

TABLE 2—MATERIALS REQUIRED FOR APPLYING 1-INCH CONCRETE ENCASEMENT PER MILE OF PIPE LINE

Size of pipe lines	Volume of concrete required per mile of pipe line cu. yd.	No. of squares (100 sq. ft.) required [1]	Weight (lbs.) (18½ lb per 100 sq. ft.) [1]	[2] Cement* (bbls.)	[2] Water† (bbls.)	[2] Sand (cu. yd.)	[2] Gravel (cu. yd.)	[3] Cement* (bbls.)	[3] Water† (bbls.)	[3] Sand (cu. yd.)	[3] Gravel (cu. yd.)
4-inch	23	112	2,070	40	18	9	17	46	21	9	16
6-inch	33	140	2,590	55	25	12	24	64	29	13	21
8-inch	41	168	3,100	70	31	16	31	81	36	16	27
10-inch	50	196	3,625	85	38	19	38	98	44	20	33
12-inch	59	235	4,350	99	45	22	44	115	52	23	39
16-inch	73	280	5,180	122	56	27	55	142	64	28	48
20-inch	90	336	6,220	152	69	34	68	175	79	35	59
22-inch	99	364	6,740	166	75	37	74	192	87	39	65
24-inch	107	397	7,350	181	82	40	80	209	95	42	70

*Four sacks cement per barrel. †Forty-two gallons water per barrel.

1—Two-inch by 6-inch, No. 13 by No. 13, mesh reinforcement required per mile of pipe line.

2—Mix, 1-1½-3; W/C, 4⅝ gallons per sack of cement; slump, 0; gravel, one-fourth inch to three-eighths inch; yield 3.993 cubic feet concrete per sack of cement.

3—Mix, 1-1.35-2.27; W/C, 4⅝ gallons per sack of cement; slump, 2 to 3 inches; gravel one-fourth inch to three-eighths inch; yield, 3.452 cubic feet concrete per sack of cement.

A mixture consisting of 1 part portland cement, 1½ parts well-graded sand (0 to ¼ inch) and 3 parts of gravel (¼ to ⅝ inch) was made with 4¾ gallons of water per sack of cement. This mixture had the appearance of being dry and unworkable, but was readily placed in the forms and around the pipe with the use of an electrically operated vibrator. Additional water in this mix would produce a concrete with a tendency to segregate.

This mixture was placed on a 10-foot sectional of National Tube Co. 8⅝-inch (outside diameter) pipe. The concrete covering was 1¼ inches thick. The form was made of No. 14 gauge galvanized sheet metal, divided into halves with an opening at the top. The form was held off the pipe by collars at each end. Welded wire reinforcement 2"x6", No. 12 by No. 12, was placed around the pipe and held half way between the pipe and the form. An electric vibrator was fitted to the top of the form and operated as the concrete was inserted. In spite of the unworkable appearance of the concrete it compacted readily into place and produced a dense covering with no honeycombing or segregation of materials.

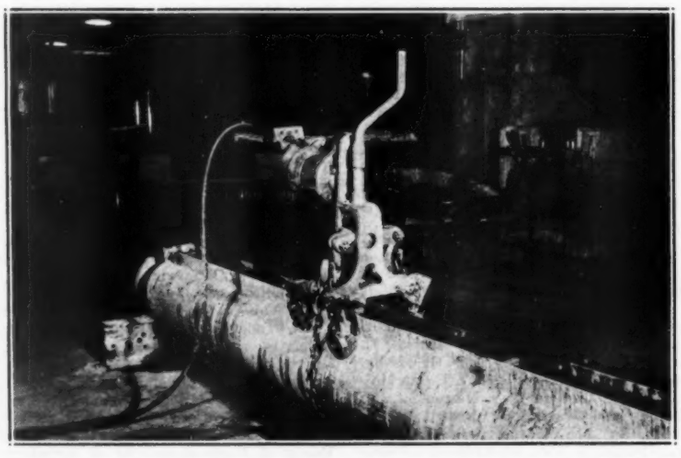


Figure 3—The assembled experimental form and vibrator. This set-up may be modified to suit conditions. The opening along the top of the form may be made wider to facilitate placing of the concrete. The wheel flanges on the vibrator should be wider. No attempt was made in these experiments to develop a perfected form and vibrator. The crank handle at the top of the vibrator is for rapid tightening or loosening of the chain that holds the vibrator rigidly to the form.

A slightly modified mix having more workability, made in the proportion of 1 part cement, 1.35 parts sand and 2.27 parts of gravel, and mixed with 4¾ gallons of water per sack of cement, produced an equally satisfactory covering. This latter mix is not as economical as the first one since the reduction in the proportion of aggregate requires more cement for a given amount of covering. As the amount of mixing water used is the same in both mixtures, the strength and durability of the concrete will be the same.

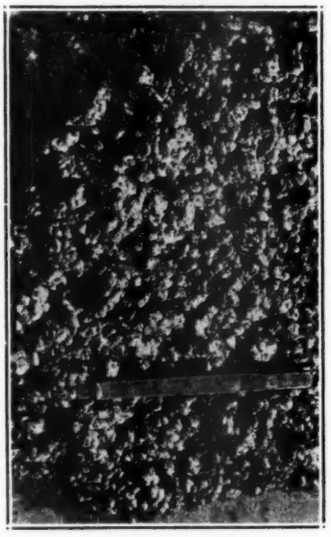


Figure 2—A mixture of concrete made with the aggregate shown in Figure 1. The proportions are: 1 part cement, 1½ parts sand and 3 parts gravel, mixed with 4¾ gallons of water per sack of cement. This mixture was placed readily with the use of an electric vibrator.

Table 2 gives the amounts of materials required per mile of length for a 1-inch concrete covering for pipe of different diameters.

Experiments were also made to determine the resistance of concrete coverings to possible circumferential increase of the pipe due to internal pressure. At the same time, the value of reinforcement and the effect of a cushion between the pipe and concrete were determined.

A 10-foot length of 8⅝-inch outside diameter 25-pound pipe with a wall thickness of 0.277 inch was divided into four sections and each covered with 1¼ inches of concrete proportioned 1:1½:3 with 4¾ gallons of water per sack of cement. On two sections the concrete was applied directly to the pipe. Two sections were applied over a thin asphaltic emulsion coating. One section of each was reinforced and one left plain. The reinforcement was "American steel and wire" welded No. 12 mesh, 2"x6", with the 2-inch spacing running circumferentially.

The forms were removed within 24 hours and the concrete cured under damp burlap for 14 days. The pipe was then filled with water and attached to a high-pressure drum of nitrogen. Pressures up

(Continued on Page 140)

Pipe Different Products in Same Line

Great Engineering Progress in Pipe Line Construction and Operation Reflected in Phillips' New Gasoline Line

By Robert Conine

It will be remembered that experiments were once carried out to ascertain if different grades of crude oil might not be sent simultaneously over the same line without intermingling of the different consignments. The shearing progress of the viscous fluid in the line caused the different batches to telescope into each other and an inscrutable mixture met the eye at the discharge end of the pipe line. The final solution to this problem, a solution which the cracking process has made dubious, involved the separation of the batches by "slugs" of water, and what follows will show that the experience with crude oil has contributed little towards answering the question: Is it possible to transport different petroleum products, gasoline, natural gasoline, butane, etc., through a pipe line in separate batches without mutual contamination?

On about February 15 the Phillips Petroleum Co. will answer the question in the affirmative and the concrete example the company will offer is an 8-inch gasoline pipe line extending from Borger, Tex., to East St. Louis, Ill., a distance of 740 miles along the route selected.

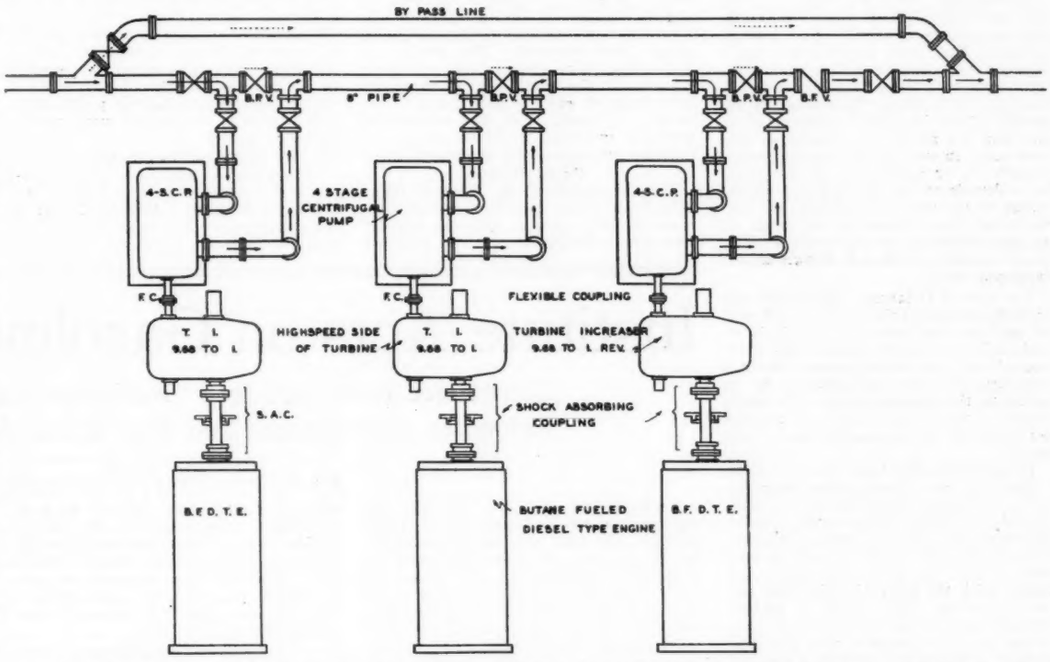
Nearly three and a half years ago the Phillips company began to study and experiment in the field of transmission of nonviscous liquids through pipe lines. The first factor found to work greatly in favor of the engineers is the fact that these fluids do not move in the pipe with the characteristic shearing movement as of concentric bands sliding across their contacting faces. The nonviscous liquids give a streamline flow or a turbulent flow at increased pressures.

Further investigations disclosed the fact that the surging which causes volatile liquids to gasify because of lowered pressure, and the introduction of air not uncommon in a system open at various points, could be eliminated. A general idea of the arrangement which permits the Phillips company to send separate consignments of straightrun gasoline, cracked gasoline, natural gasoline (butane free) and butane (in liquid form) to any point desired along the 740-mile steel artery, follows.

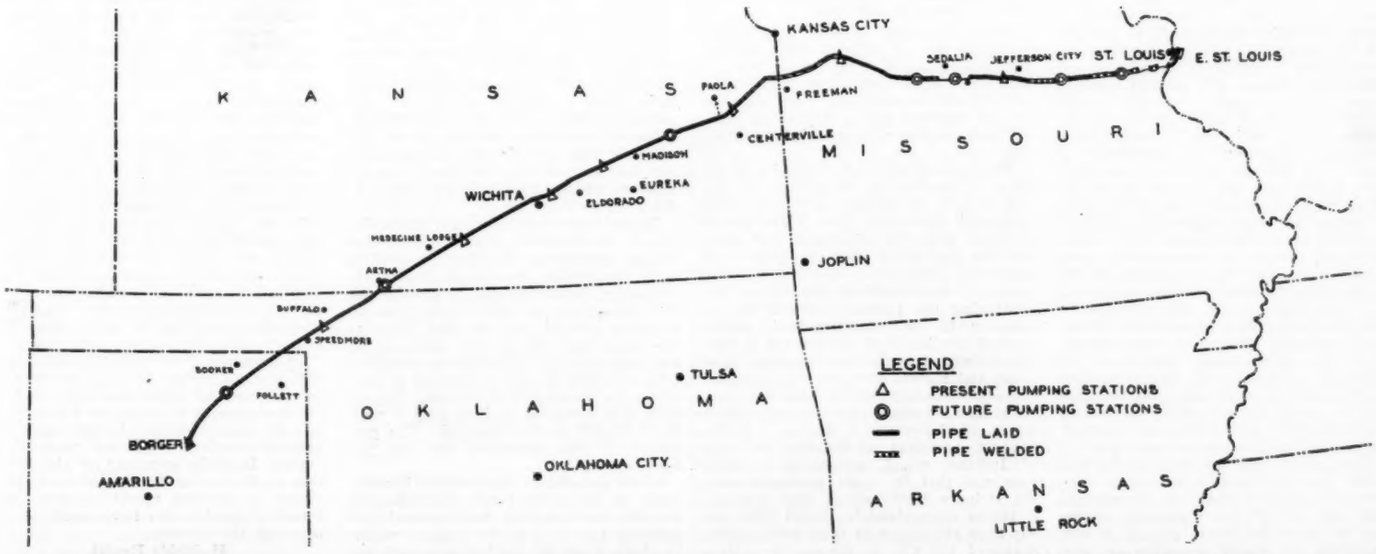
At each of the pumping stations there are three pumping units. A Diesel type engine, which uses butane for fuel, is hooked up with a turbine type step-up gear or increaser which takes one revolution at the input end and turns out 9.68 revolutions at the output end. This high speed end is connected by a flexible coupling to a four-stage centrifugal pump which develops 375 pounds pressure. The coupling between the engine and the increaser is of the shock absorbing type. At the discharge end of each centrifuge is a device which throws off the magneto switch in the event of an accidental increase of pressure nearing the danger point. This would happen if all three pumps were set in operation at the same time.

It is pointed out that the use of butane, a by-product of the Phillips company at its natural gasoline plants, for fuel, and the fact that the efficiency of the centrifugal pumps is said to be rated low at 82 per cent, throws into discard the old objections to use of the centrifugal pump in pipe line transportation. It may be said also that the head which reaches the

(Continued on Page 104)



This diagram shows the arrangement of valves controlling the operations of the nine sets of pumping units on the Phillips Petroleum Co.'s gasoline pipe line. It will be seen that any or all of the pumping units may be bypassed. Fuel for the Diesel type engines is butane which is stored under pressure in three 10x40-foot tanks at each station. This supply of butane is ample for operating the three Diesels and meeting the domestic needs of the station operator for 45 days.



This map shows the route of the gasoline pipe line which the Phillips Pipe Line Co., a fully owned subsidiary of the Phillips Petroleum Co., is completing from Borger, Tex., to East St. Louis, Ill., a distance of 740 miles. The 8-inch artery, as the marking shown along its course denotes, will be finished when gaps totaling less than 130 miles are closed. Along 70 miles of the open stretches the pipe has been welded and work is progressing at the rate of 5.5 miles a day. Sites of the present and future pumping stations are shown. Although Kansas City is one of the three marketing terminals supplied by the pipe line, the map shows that there is no extension of the line to that point. A bulk station at Paola is to meet the Kansas City demand by truck.

Would Abandoning Proration Be Cure?

Mid-Continent Oil and Gas Association Presents an Answer. Effects of Curtailment on Industry and State Summarized

Issued by the Mid-Continent Oil & Gas Association

The oil producing industry presents a multitude of varying circumstances and conditions precluding its automatic self regulation in times of overproduction and distress. Added to the fact that some operators are larger, more powerful or better equipped as to marketing facilities, we have the extraordinarily competitive condition arising from the diverse ownership of land or leases in small tracts causing wasteful haste and excessive drilling, and finally, the peculiar nature of oil and gas. They are volatile, perishable and possess the power of self transmission across property lines underground. Each pool or structure has a common gas pressure which pushes the oil laterally to the well and perpendicularly to the surface. This common gas energy is the individual property of no one man but all have a common or proportionate interest in it. Its disproportionate use or dissipation by one operator redounds to the detriment of all the others in the pool because they are thus prevented from recovering as much oil as they otherwise would recover. This is an example of what is known as underground waste.

The laws of Oklahoma and certain other States recognize the peculiar nature of oil and gas and the fact that it is irreplaceable, and wisely prohibit the waste thereof, including underground waste and that form of waste long known to be incident to the production of crude oil in excess of the transportation or marketing facilities or reasonable market demand.

Petroleum readily lends itself to waste —especially when there is overproduction and a consequent scramble for the limited and inadequate market outlet. Drainage from one lease to another resulting from one or more operators availing themselves of pipe line and market outlets not shared with the others impels those others to produce their wells to prevent drainage and to flow their oil into earthen tankage when no other means of handling it is available. This is a common and serious source of waste and has occurred innumerable times in the history of the industry.

Mere Prohibition Vain

It would have been futile for the law merely to have prohibited waste and to have stopped there without providing a means by which waste could be prevented, i.e., forestalled. In the frenzy of the unreasoning competitive struggle to get the oil and dispose of it such as has been enacted time and again in the flush stages of the oil pools of this country, the operators have and would have ridden rough-shod over any mere prohibition of waste. It became apparent, therefore, that it was necessary to prescribe a rule of conduct of operation in flush pools, a means by which operators could be protected against each other, and a state agency to enforce the rule so that waste would not occur. The lawmakers of Oklahoma in 1915 chose proportional taking or "proration" as the rule of conduct and the Corporation Commission as the state agency to enforce it. The law reflects the accumulated wisdom of 70 years of experience with petroleum production and has been approved in principle by many courts. From the standpoint of waste prevention and security for co-equal rights it is a sound law.

Much of the criticism of proration has arisen from a misconception of its fundamental purposes and from disappointment that it did not artificially maintain the price for crude oil. It is not reasonable to expect proration or any other device to maintain the price of Oklahoma oil at a higher figure, quality and transportation cost considered, than that at which competing oil from other states and countries sells for in the general market. Nor is it reasonable to suspect that if proration were lifted Oklahoma oil producers could appropriate to themselves the market outlets of other producing regions. Prices for crude oil, like prices for wheat and other commodities, tend toward a common level. Proration has been in effect in Oklahoma almost continuously since the late fall of 1926 and during this four-year period the price of crude oil has declined, responsively to world conditions, approximately 50 per cent. But it has been an orderly decline as contrasted with the utter demoralization which otherwise would have occurred. The decline in price took place because the petroleum markets of the world became saturated with crude oil, gasoline and fuel oil. They remain saturated. For that reason, the lifting of proration would not materially increase the demand for crude oil.

Public Rights

But the people of the State of Oklahoma have a right to insist, through their reserved police power, that the natural resources shall not be wasted; that the co-equal rights of producers in a common pool shall not be violated but shall be protected; and that if, as an incidental effect there is a more orderly conduct of the business, a tendency toward stabilization of the industry or even a beneficial effect upon prices and prosperity, these incidental by-products do not invalidate the exercise of the police power nor impeach its wisdom.

Throughout this discussion it must be remembered that proration does not signify curtailment of production to a point below the market demand for crude oil. Proration does not seek to limit production artificially or capriciously nor to fix prices—for prices cannot be materially and improperly affected when the full market demand at whatever prices which may prevail in the general world market is fully supplied.

As Applied in Oklahoma

"Proration" as applied to the oil fields of Oklahoma under Section 7,957 of the Oklahoma Statutes (otherwise known as the Conservation Act of 1915), does not mean an arbitrary limitation on production of oil from the various pools of the State. It does not signify a limitation or suppression of market demand. It only operates during periods of overproduction when the potential production from an oil pool is so great that it cannot all be disposed of because of inadequate transportation or marketing facilities or market demand; and its office then is to secure a fair and proportionate division of the existing market outlet among all the producers, large and small, so that each may produce his wells in that proportion of their potential production. that the market outlet for the pool bears to the total potential production of the pool.

The Oklahoma Law

The section of the statutes of Oklahoma on which proration is based reads as follows:

"That whenever the full production from any common source of supply of crude oil or petroleum in this State can only be obtained under conditions constituting waste as herein defined, then

(Continued on Page 141)

Institute Acts on Gasoline Tax Evils

Committee to Investigate "Racketeering" and Suggest Remedies. Curtailment and Pipe Lines Also Considered

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Jan. 10.—Uniform legislation for the enforcement of state gasoline tax laws will be recommended by the American Petroleum Institute as a means of checking the "tax racketeering" which has developed in some parts of the country, placing the great majority in the industry under a handicap in competing locally with tax evaders. Directors of the Institute, meeting here this week, heard a thorough summary of the tax evasion situation as it exists in some parts of the country, and voted to appoint a committee to thoroughly investigate the question and suggest uniform legislation to the various states for the correction of this evil.

Numerous other important problems, including that of stripper wells, marketing conditions, Federal regulation of pipe lines, crude production curtailment, and refinery curtailment, were discussed by the directors and a number of other oil trade leaders who attended the meeting.

There was a thorough discussion at the directors' meeting of the problem of aiding owners of stripper wells, it being estimated that more than 1,500 owners of such wells in Oklahoma and Kansas are now faced with the problem of marketing their output as a result of the action of Prairie Oil & Gas Co. in discontinuing the purchase of this oil on January 1. W. S. Fitzpatrick, chairman of the board of Prairie Oil & Gas Co., estimated at the meeting that Oklahoma and Kansas strippers were producing approximately 36,000 bbls. of crude daily, and operated approximately 3,600 leases, as of January 1, this year. E. G. Seubert, president of Standard Oil Co. of Indiana, which announced a short time ago that it would purchase from the stripper wells, stated that Indiana is taking approximately 12,000 bbls. per day from the output of these wells, while Standard Oil Co. of Kansas is taking about 5,000 bbls. daily. No decision was reached by the directors as to a solution for the problem confronting producers not taken care of by the Indiana and Kansas Standard purchases, and the matter was referred back to the Tulsa committee. E. B. Reeser, president of the Institute, stated at the conclusion of the meeting that "it would seem impossible for economic reasons to provide an outlet for some stripper wells at this time, but most of them will be taken care of."

Refiners Co-operating

The Institute's new committee on statistics and economics, of which R. C. Holmes is chairman, expressed its pleasure at the progress which has been made by the refining branch of the industry in getting refinery holdings down to "working stock levels" and predicted further progress in this direction. The committee pointed out that whereas gasoline stocks added to storage between January 1 and October 1, 1929, totaled 10,800,000 bbls., there was but 2,500,000 bbls. added to storage during the same period of 1930, indicating that domestic refiners have been working under the schedule suggested at the Chicago meeting for a reduction of total domestic gasoline stocks to 40,000,000 bbls. by April 1.

There was a thorough discussion among the directors of the recent action by the association of railway executives in recommending an amendment to the Interstate Commerce Act to provide for the segregation of pipe lines from oil company control and to place them in the same category as the railroads as common carriers. The directors authorized President Reeser to appoint a committee to thoroughly investigate the oil pipe line situation and to confer with the railroads on the question. The personnel of this committee has not yet been announced.

Crude petroleum conservation likewise came in for a thorough discussion at the directors' meeting, with general satisfaction voiced as to the progress which has been made by the industry thus far in cutting crude output in an effort to balance supply and demand more closely. The production division of the Institute reported that there has been a reduction of approximately 33⅓ per cent in crude oil production during the past 18 months. There was some discussion regarding production control in new fields, but no definite recommendations or action along this line.

The marketing situation was gone into in some detail by the directors during the course of their meeting, but no recommendations were made as to any suggested changes in marketing practices.

Tax Racketeering

The question of gasoline tax "racketeering" came in for a thorough overhauling, with President Reeser authorized to appoint a committee for further study of this question and for the preparation of suggested uniform legislation for enforcement of state gasoline tax laws. There has been considerable complaint by large oil companies in various parts of the country during recent months as to tax evasion practices of some smaller interests, and drastic price cutting in some territories, it is believed, has been made possible by the fact that some marketers have been bringing in bulk gasoline from outside of the States in which they are operating, and have sold this motor fuel at retail without payment of the state tax. Tax evasion of this sort would give tax-evading marketers an initial advance of from 2 to 6 cents per gallon, according to State, over competitive companies complying with the provisions of their state tax laws.

Chicago and New York City have witnessed considerable of this tax evasion on the part of small marketers during the past year, it is known, and this practice in some localities has reached the proportions of an organized "racket."

Paul Hadlick, secretary of the Division of Marketing of the Institute, presented a detailed report showing the extent of gasoline tax law evasion in all parts of the country.

Hadlick's Report

Mr. Hadlick's report follows:

In response to inquiries sent to state officials and responsible marketing authorities in each state with reference to

(Continued on Page 182)

Shell and Standard Buy Dubbs Process

All Patent Litigation Against Members of Patent Club Dropped Following Sale. Universal Company to Expand Activities

The Dubbs cracking process, the largest of the licensed operations of the oil industry, came directly under the control of two major oil interests last week when the stock of the Universal Oil Products Co. was purchased by the United Gasoline Co., a new Delaware corporation. Controlling interest in the new company is owned by the Shell Union Oil Co. and the Standard Oil Co. of California. The remaining stock is held by several individuals who previously owned stock in the Universal company.

Coincident with the announcement of the sale of the Universal holdings it became known that the suit of the Universal company against the Standard Oil Co. of Indiana which has been pending in the federal courts since 1916 would be dropped immediately. This suit involved the alleged infringement of the Dubbs patents by the Standard company in the operation of the Burton cracking process. Several thousand pages of testimony have been taken in this case.

It was also announced that following the consummation of the sale, representatives of the Standard Oil Co. of Indiana, Standard Oil Co. of New Jersey, Standard Development Co., The Texas Corporation and the Gasoline Products Co. had signed an agreement terminating all liitigation and guaranteeing not to sue any of the companies party to the agreement or any of their licensees on the ground of patent infringement. This agreement in effect makes the new owners of the Dubbs process a member of the "Patent Club" composed of the companies named which several years ago pooled their cracking patents. This pooling of patents was held to be a violation of the Sherman Antitrust Law in federal district court and the case is now on appeal before the Supreme Court of the United States. A final decision is expected in the near future.

Twenty-five million dollars was paid for the Universal stock by the United Gasoline Co. Indirectly the deal concerns approximately 75 refining organizations in United States and foreign countries which are licensees of the Dubbs cracking process. Over 200 units of the Dubbs process are in operation in this country and approximately 60 in foreign countries.

There was considerable popular interest in the sale due to the fact that Mrs. Lolita Sheldon Armour, widow of the late J. Ogden Armour, who financed the early development of the process, received $8,216,058 for her 400 shares of the Universal stock. For many years Mr. Armour's stock in the company was considered worthless.

Carbon Petroleum Dubbs, son of Jesse A. Dubbs, for whom the process was named, received $3,582,045 for his stock in the Universal company. The son has been engaged in research work for the Universal company ever since the company was organized.

One of the conditions upon which the sale was predicated was that Hiram J. Halle, president of Universal, remain in charge as he has been the past 15 years. Mr. Halle was made president of the United Gasoline Co., and also remains as president of the Universal Oil Products Co. The other directors of the United Gasoline Co. represent the Standard of California and the Shell Union. They include J. C. Van Eck, president of the Shell Union, and Richard W. Hanna, vice president of the Standard of California.

The Universal Oil Products Co. prior to the consummation of the sale of its stock last week collected $30,000,000 in royalties during 1923-1930 inclusive.

The Standard of California and the Shell Union are the two largest licensees of the Dubbs process and their current royalty payments are very large. By the purchase of paid-up royalty contracts incident to the purchase of Universal Oil Products Co. stock, they are relieved from further current royalty payments.

Universal Oil Products Co. will continue to function as heretofore, under the direction of Mr. Halle as president and J. G. Alther as vice president. R. J. Dunham, vice president, who has been with the company since its beginning, is retiring to devote his attention to his personal interests.

John J. Mitchell, Jr., of Chicago, the son-in-law of Mrs. Armour, who held so large an interest in Universal, becomes a vice president and treasurer, succeeding Mr. Dunham.

C. P. Dubbs, inventor, will continue his relationship with the company. It is announced by Mr. Halle that the Universal Oil Products Co. will continue to operate on the broadest possibly policy of licensing the Dubbs process freely all over the world. The extensive research and development work which has long been carried on by Universal will be continued and enlarged in scope.

In connection with the agreement with other companies, relative to the termination of litigation based on patent infringement, it was pointed out by officials of the Universal company that none of these companies has an interest in the new concern. The Universal company will be operated on the same basis in regard to its licensors that it has in the past.

In trying the suit filed by the Universal company against the Standard Oil Co. of Indiana, it is stated that the Universal company has spent $1,800,000. It is assumed that a like amount has been spent by the defendant company. As the first of the suits based on cracking operations the case attracted wide attention.

Development of the Dubbs Process

President of Universal Company Reviews Growth From Time of Its Birth in 1913. First License in 1919

CHICAGO, Jan. 10.—H. J. Halle, president of the Universal Oil Products Co., last night sketched the history of the development of the Dubbs process from its birth in 1913 to the signing of papers on January 6, 1931, that transferred the stock of Universal Oil Products Co. to another company.

The company was organized in 1913 under the name of National Hydrocarbon Co. as a South Dakota corporation with 1,000 shares of issued capital stock. The company acquired a small group of patents covering inventions of Jesse A. Dubbs in the oil refining field.

Jesse A. Dubbs was at that time living in California. Other patents were acquired at that time relating to the treatment of asphalt and became the property of the Standard Asphalt & Rubber Co., of Independence, Kans., owners of the Culmer patents for airblown asphalt. These Culmer patents have long since expired but were the subject of much litigation, including the suit against the Barber Asphalt Co. which went to the Supreme Court of the United States and was finally determined only about a year ago. This suit culminated in the payment by the Barber company of about $500,000 and settlement has since been made of all asphalt patent suits against other companies except one against The Texas Company, which is now on hearing in Chicago.

J. Ogden Armour, of Chicago, was the main stockholder in the Standard Asphalt & Rubber Co., which in 1916 was sold to Henry L. Doherty & Co. by Mr. Halle on behalf of Mr. Armour and other stockholders, Mr. Halle having at the request of Mr. Armour and his associates taken the presidency of the Standard Asphalt & Rubber Co. in 1916 to work out the company's difficulties.

As a result of the sale of the Standard Asphalt & Rubber Co., Mr. Halle was free to devote himself to the development and exploitation of the oil refining patents acquired from Jesse A. Dubbs, including the famous Dubbs patent which was the basis of a suit brought by the Universal Oil Products Co. against the Standard Oil Co. of Indiana, which has dragged through years at a cost of approximately $1,800,000 to the Universal company.

Although the patent in suit expires in a year or so, testimony in the case has not been completed and a hearing has never been had in court. This suit is automatically ended by the new deal described in this report. After about two years of development work at Independence in connection with the Dubbs cracking patent, which was frequently referred to as a dehydrating patent, the company's operations were transferred to Chicago where the laboratories, which have since become well known, were built at Riverside.

As a result of the experimental work at Independence and at Wilmette, Ill., where C. P. Dubbs, son of Jesse A. Dubbs, maintained a private laboratory in connection with his home, the so-called "clean circulation" was developed.

Clean Circulation

Clean circulation made possible for the first time a continuous cracking process, avoiding formation of coke in the heated tubes. Up to that time only batch operation had been employed. Batch cracking was first done in shell stills mainly by the Standard Oil Co. of Indiana and a few of its affiliated companies. This was the original Burton process. Later the shell stills were modified by the addition of a tube bank beneath the shell, through which the oil curculated. These were the well known Burton and Clark stills.

In the summer of 1919, the first public demonstration of the Dubbs process with the clean circulation feature was made before about 22 members of the Western Petroleum Refiners Association and the National Petroleum Association, at Independence. This demonstration took place in July.

The test run was started July 19 and ended July 28. Gas oil was the charging stock. On the evening of the latter date the plant was shut down. It was found that the tubes were clean and that a substantial yield of gasoline had been made.

This gasoline was tested in the laboratory of the company and samples were furnished to each witness of the run so that they might confirm these tests in their own laboratories. From this time on improvements followed fast in the development of larger sized commercial units.

First License Agreement

The first license contract for use of the Dubbs process was signed in 1919 after several months of negotiations with the Roxana Petroleum Co. at St. Louis, a member of the Shell Union group, now known as Shell Petroleum Corp. This contract was based on the guarantee that the unit would deliver a yield of 21 per cent gasoline of 360 endpoint from the gas oil. The first unit was installed at the Wood River plant of the Roxana company after some delay because of the condition of the market. Gas oil was high priced, mounting as high as 11 cents a gallon at times between 1919 and 1921.

This unit had a rated capacity of 250 bbls. per day. Other license contracts were then entered into and business developed rapidly.

Vertical reaction chambers were introduced into the third commercial unit built, and of course have now become a standard feature.

In the earlier units the dephlegmator was mounted on a tall tower to give a gravity head for the return to the tubes of the heavier ends of the cracked product. No hot oil pump of dependable type suitable for operating at temperatures and pressures used was then available, but one was later developed and installed, greatly increasing the size and capacity of the units. As market conditions changed, it was found that the process as designed, without any change, would crack fuel oils as well as gas oil, and from then on cracking of the cheaper residual oil increased rapidly.

Then came the introduction of the nonresiduum type of operation in which only overhead distillates and coke were produced with very high yields of gasoline. Larger chambers, 10x40', and double chambers were introduced in order to give greater storage capacity for coke, thereby lengthening the operating cycle.

Cleaning Reaction Chamber

In order to keep each unit on stream in operation and making profits for the greatest possible proportion of the time, it was necessary to make provision for quick clean out of coke from the chamber.

To do this an ingenious system was devised for hanging cables in the chamber, supported on lugs welded to the walls. The coke forms around this cable which is suspended in spiral form. When the cleanout comes, the cable is pulled out by means of a winch, bringing the coke with it.

The first Dubbs unit outside the United States was contracted for in April, 1923, by the Nippon Oil Co. of Japan. In December, 1923, the Shell interests ordered Dubbs units for their refineries in Borneo and on the island of Curacao, off the coast of Venezuela.

Outside the United States, Dubbs units are today in operation or building in Canada, Venezuela, Curacao, Mexico, Argentina, England, Belgium, Sweden, France, Italy, Rumania, Borneo, Java, Egypt, India, Burmah, Australia and Japan.

Besides its head office in Chicago, the Universal Oil Products Co. maintains offices in New York and Los Angeles, and foreign headquarters in London with representatives in Paris and Bucharest.

The first royalties paid to the Universal Oil Products Co. for the use of the Dubbs process were in October, 1922, and the total royalties for the year were less than $6,000. Seventy-eight million barrels of oil were cracked in Dubbs cracking units in 1930.

Theories in Origin of Oil Are Questioned

Frank R. Clark Says If Organic Theory Is Accepted, Then Supposition Concerning Accumulation in Pools Is Unsatisfactory

By L. G. E. Bignell
Petroleum Engineering Editor

If the organic theory regarding the origin of petroleum is accepted, then the theory commonly held concerning its accumulation in pools is inadequate to account for many commercial pools in the opinion of Frank R. Clark as presented in a paper read before the annual meeting of the Tulsa Geological Society in Tulsa January 5. Mr. Clark, chief geologist for the Mid-Kansas Oil & Gas Co. and retiring president of the society, expressed disagreement with other theories in this connection generally received as well established.

In the opening statements of his paper, "Origin of Oil," Mr. Clark reviewed briefly the inorganic and organic theories. The theory of the formation of oil from organic matter, familiar to all who have made even a perfunctory study of petroleum geology is stated as follows by Dorsey Hager in his "Practical Petroleum Geology":

"The formation of petroleum from either animal or vegetable matter is considered to be as follows:

"1. The organic matter is first laid down in clays and sands which have deposited under water along sea coasts, in swamps, bays or in lakes.

"2. Other beds of material are deposited upon these carrying the organic matter, until a thick covering is formed.

"3. The water and the overlying sediments protect the organic matter from rapid destruction by oxidation, and especially where the water is salt, it acts as a pickling brine.

"4. In time the pressure of the overlying beds, and the action of heat, which is supposedly generated by the pressure of the overlying sediments or by the action of plutonic masses of rock which have been intruded into the sediments, causes a distillation of the organic matter to form petroleum products which are later accumulated into so-called pools or fields of oil."

Meaning of "Organic"

Mr. Hager also states that "by organic one means any chemical process that takes place by assistance of living organisms such as bacteria, decomposing vegetation, or animal matter. Some scientists assert that oil is of animal origin, others that it comes from vegetable matter. * * * A compromise view asserts that petroleum may come from either source alone, or from a combination of the two."

Mr. Hager then briefly outlines the animal and vegetal theories and includes in source materials the decomposition of the bodies of marine animals such as fish, oysters, scallops, mollusks and corals, and under the vegetal theory he names as source materials seaweed, land plants, diatoms and coal.

Mr. Clark did not review that phase of oil accumulation in a detailed way, but he stated specifically that the theories with which he disagrees, and for which he offers substitutions, are:

"First, that oil has its origin in the sparsely and widely disseminated matter in shales and limestones, and

"Second, that oil, once formed, can and does migrate long distances (a) through the so-called source rocks into the reservoir, and (b) through the reservoir into the trap."

It was Mr. Clark's contention that the problem of oil accumulation into pools is one of local extent in each pool from the standpoints of both the source and the accumulation. The local conditions due to uplift and subsidence and to local conditions of sedimentation are responsible for favorable local areas on the epicontinental sea floor for the rich deposits of organic material, he said.

Pools Near Source Material

Mr. Clark further stated that in his opinion oil pools in general are situated near or at the place of the accumulation of the organic source material. In this he differs materially from the older theories of oil accumulation, for there seems to be many physical and mechanical problems introduced into the old theory of long migration of oil from bodies of shales or other formations in which it has been assumed that the organic material was first accumulated—and, as Mr. Hager states, subjected to a process of distillation due to pressure of the overlying sediments or distillation by the action of plutonic masses of rock. These mechanical problems are difficult to answer satisfactorily, and therefore Mr. Clark postulates that some other conditions were

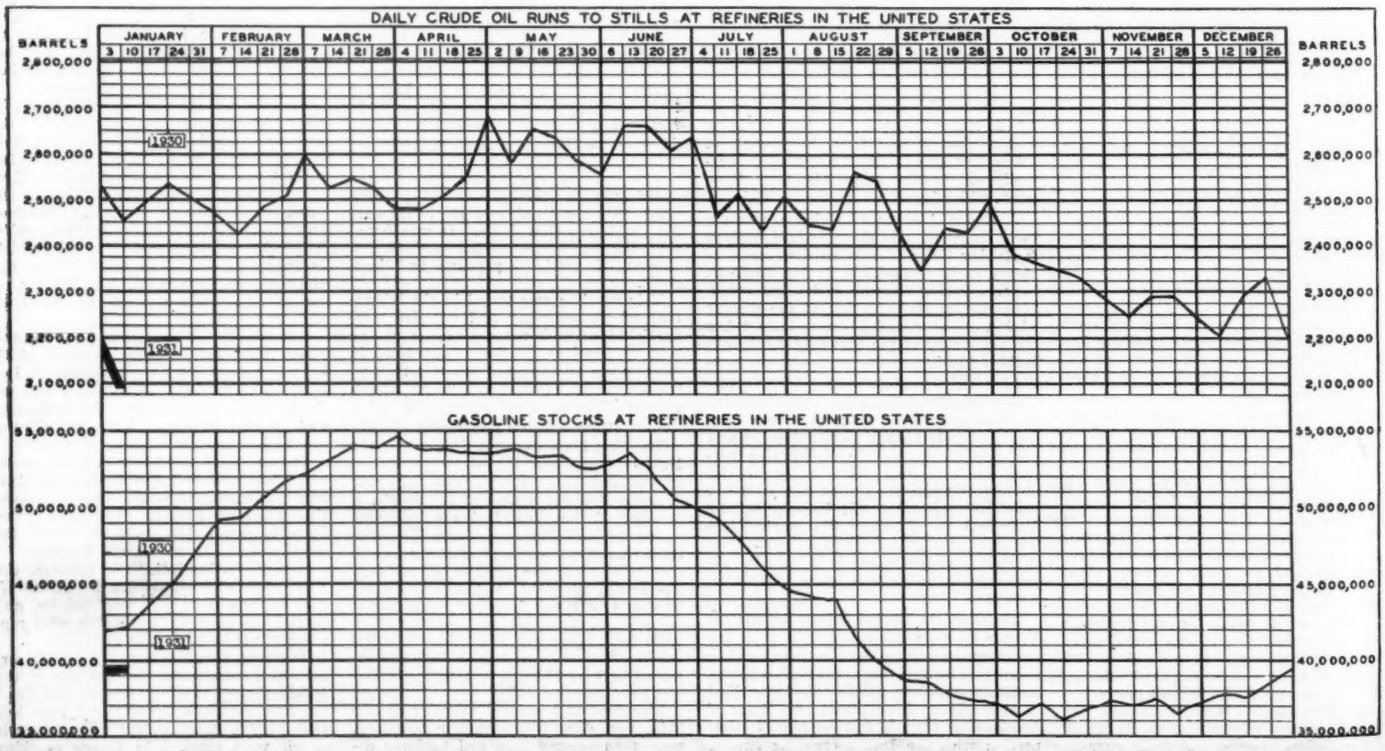
(Continued on Page 180)

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending January 10:

	Week ending January 10				Week ending January 3				Week ending January 4			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	471,300	5,790,000	8,771,000	100.0	441,900	5,868,000	9,601,000	100.0	454,857	5,998,000	7,431,000
Appalachian	93.8	71,300	1,091,000	1,038,000	93.8	78,400	1,051,000	1,050,000	91.6	75,571	1,232,000	805,000
Indiana, Illinois, Kentucky	97.5	234,600	4,573,000	3,309,000	97.5	237,300	4,542,000	3,462,000	98.6	289,800	5,483,000	3,505,000
Oklahoma, Kansas, Missouri	89.4	210,400	2,758,000	4,002,000	89.4	206,300	2,854,000	4,120,000	87.7	263,428	3,604,000	3,277,000
Texas	91.9	527,600	6,814,000	10,596,000	91.9	469,400	6,912,000	10,846,000	90.7	539,857	6,590,000	13,757,000
Louisiana and Arkansas	98.3	139,500	1,704,000	2,353,000	98.3	130,300	1,526,000	2,270,000	96.8	160,000	2,161,000	4,499,000
Rocky Mountain	93.1	38,300	1,659,000	971,000	93.1	33,600	1,689,000	1,002,000	93.3	41,614	2,273,000	973,000
California	98.8	452,300	15,194,000	103,468,000	98.8	498,100	15,338,000	103,873,000	99.3	642,857	14,826,000	109,770,000
Total United States	95.7	2,145,300	39,583,000	134,508,000	95.1	2,095,300	39,780,000	136,224,000	95.4	2,468,285	42,217,000	144,017,000
Texas Gulf Coast	100.0	411,100	5,507,000	8,020,000	100.0	359,600	5,519,000	8,133,000	100.0	429,585	5,579,000	10,792,000
Louisiana Gulf Coast	100.0	93,600	1,479,000	1,402,000	100.0	99,100	1,290,000	1,351,000	100.0	108,514	1,877,000	3,818,000

(1) Per cent of refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.



Data for 1930 based on weekly reports of the American Petroleum Institute. Data for 1929 derived from monthly reports of the Bureau of Mines, Department of Commerce. Figures for last week not shown in graph but are included in above tables.

"The State of the Art"

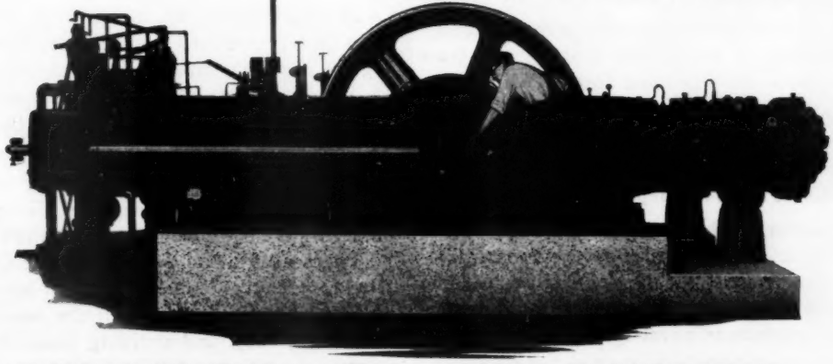
TO-DAY

Yesterday some high grade refinery engineers would not consider the installation of gas engines to be operated on refinery gases. And at that, their judgment was good, it being based on the "state of the art" in building gas engines.

¶ To-day these same engineers have a different view point. The new TRANSIT GAS ENGINES have demonstrated that they are eminently suited to burning refinery gases, thereby utilizing in a most economical manner, gases that were formerly wastefully burned.

¶ So now, Mr. Refiner, if you would change extravagances into economies, have your engineers investigate.

TRANSIT GAS ENGINES



Los Angeles
Tulsa
Houston

NATIONAL TRANSIT
PUMP & MACHINE CO.
OIL CITY, PA.

New York
Philadelphia
Cleveland
Pittsburgh

TULSA and MID-CONTINENT FIELD
Frick-Reid Supply Corporation

LOS ANGELES
Republic Supply Company of California

NEW ORLEANS, LA.
Woodward, Wight & Co.

BEAUMONT, TEXAS
E. L. Wilson Hardware Company

PHOENIX, ARIZ.
Pratt-Gilbert Co.

SALT LAKE CITY, UTAH
F. C. Richmond Machinery Co.

ST. LOUIS, MO.
Reeves & Skinner Machinery Co.

The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.

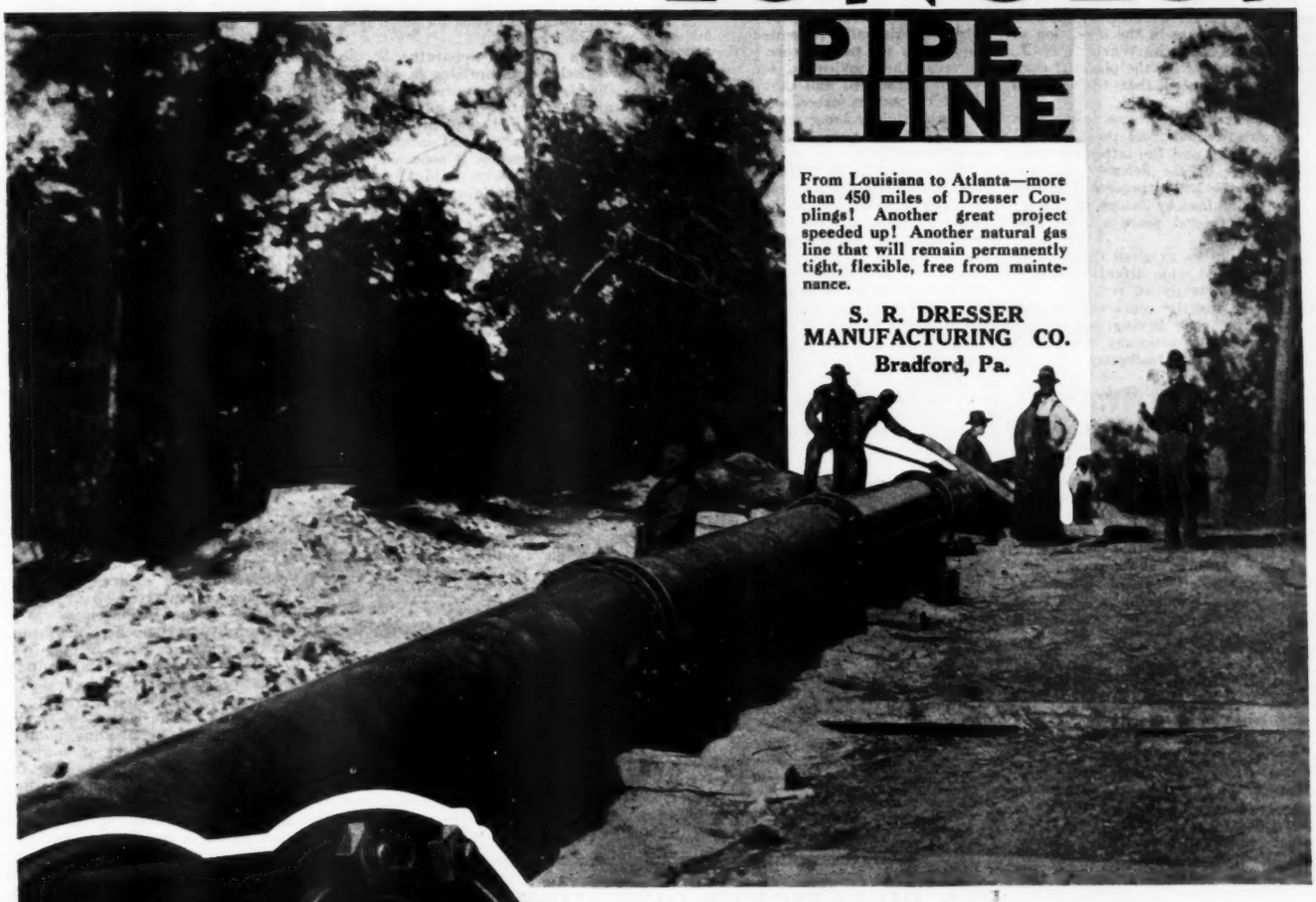
Established as an International Publication in 1910 by Patrick C. Boyle.

President - - - - - - - - - - - - Frank T. Laulager
General Manager - - - - - - - - - John M. Egan
Editor - - - - - - - - - - - - - James McIntyre
Managing Editor - - - - - - - - Andrew M. Rowley
Refinery Editor - - - - - - - - - - C. O. Willson
Technical Editor - - - - - Charles K. Francis, Ph.D.
Petroleum Engineering Editor - - - - L. G. E. Bignell
Associate Editor - - - - - - - - - W. T. Anderson
Associate Editor - - - - - - - - W. T. Ziegenhain
Associate Editor - - - - - - - - Thomas F. Smiley
Advertising Manager - - - - - - - - E. Klappenbach
Circulation Manager - - - - - - - Simon H. Rourke

DISTRICT ADVERTISING OFFICES

C. L. CAIN - - - - 101 Park Ave., NEW YORK CITY
L. AUSTIN DE VORE - - - - - - - - - - - - -

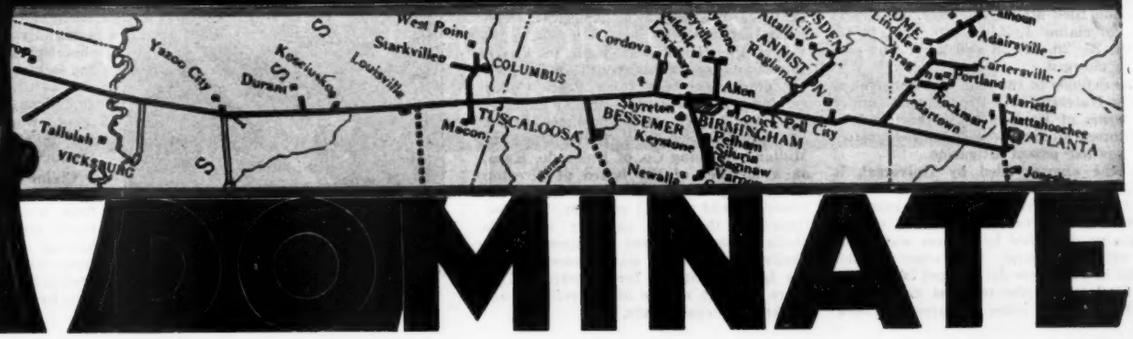
On the SOUTH'S LONGEST PIPE LINE



From Louisiana to Atlanta—more than 450 miles of Dresser Couplings! Another great project speeded up! Another natural gas line that will remain permanently tight, flexible, free from maintenance.

S. R. DRESSER MANUFACTURING CO.
Bradford, Pa.

DRESSER COUPLINGS DOMINATE



Announce Decision in Cracking Case

Judge Runyon Decides in Favor of Dubbs Owners in Suit Against Warner-Quinlan Corporation. The Texas Company to Appeal

Judge William N. Runyon in the United States district court of New Jersey last week dismissed the application of The Texas Company for an injunction to restrain the Warner-Quinlan Corp. from using certain patents in the operation of a cracking process at its Warners, N. J., refinery. Attorneys for the plaintiff company have announced that the decision will be appealed.

The Dubbs cracking process involved in the suit was licensed from the Universal Oil Products Co. and the latter company was in charge of the defense. It was charged that the Dubbs process infringed two patents obtained by Joseph H. Adams and acquired several years ago by The Texas Company.

Due to the issues involved the trial of the case attracted wide attention within the oil industry, many oil refining organizations not directly concerned in the outcome of the case having representatives present while testimony was being taken. The taking of testimony required several months.

Judge Runyon announced the following brief decision:

"I have made up my mind to decide this case in favor of the defendants, the principal ground being that Mr. Adams, whose process belongs to the plaintiffs, through extensive manipulation and alteration of specifications and claims came out of the patent office with something entirely different from that which he took there in the original instance. His original process, as I view it, distinctly declared against pressure as a means of cracking, whereas he later right-about faced, and championed the pressure process.

"The claims made in his behalf that he was without funds to hire a lawyer, and that he used many terms mistakenly and, in a sense, quite the reverse of his real intent, I cannot agree with, in as much as he was well versed in the art and cognizant with the language thereof. It appears to me that he came to realize his nonpressure project was entirely impractical, and for that reason went to very great lengths to amend his position through the submission of some affidavits which go far to tax one's credulity.

"The Dubbs process, therefore, taking all circumstances into consideration, is entitled, I believe, to the court's decision.

"A decree dismissing the bill will accordingly be entered.

"This cause was tried and argued prior to the promulgation of Rule 70½; however, if it is applicable and counsel so desire, I will specially find and state the facts in more detail later."

Patents Involved

The patents involved in this suit are No. 1,320,354, "Oil Converting Apparatus," issued October 28, 1919, and applied for December 1, 1909. Claims 13, 14, 15, 16, 17, 23 and 24 of this patent were alleged to be infringed. The other patent is No. 1,327,263, "Process for the Conversion of Liquids, Fluids and Oils," granted January 6, 1920, applied for December 31, 1909, "inadvertently allowed to lapse," March 9, 1911, and another application filed March 31, 1911. Infringement of claims 1, 2, 4, 5, 6, 7, 8, 9, 15, 17, 24, 25, 26, 27, 28 and 29 of this patent is charged.

The defense to the suit was undertaken by the Universal Oil Products Co. under the terms of its license contract, which guarantees all licensees unlimited protection against patent litigation.

In the answer filed by Universal, it was charged that patent No. 1,320,354 was invalid and void, for several reasons: First, that the essential feature of the apparatus described by Adams was without utility; second, that some of the claims in suit were for alleged inventions not disclosed in the original application and that certain other features had been described in previous patents or publications which were cited.

As to patent No. 1,327,263, the defendant in its answer alleged that some of the characteristic and essential features as originally presented in Adams' application for patent were without utility, that the application for the patent became abandoned and that the commissioner of patents exceeded his authority in permitting Adams again to file an application for patent on the same alleged invention.

The answer stated that "J. H. Adams was not the first and sole inventor of the subject matter set forth in the claims declared upon in the patent (that is, 1,327,263) but he surreptitiously or unjustly obtained the patent for that which was in fact invented by Jesse A. Dubbs, deceased, formerly of Los Angeles, Calif., who was using reasonable diligence in adapting and perfecting his invention."

The suit was tried before Judge Runyon, in the United States district court of Newark, N. J., the trial lasting several months and ending in the fall of 1929.

Plaintiff's Claims

The claims alleged to be infringed, follow.

Patent No. 1,320,354

Claim 13: An apparatus of the nature disclosed, comprising an elongated retort of restricted cross section, means for continuously supplying oil under pressure to said retort, means for locally applying high heat to the restricted volume of oil in said retort to convert or crack the same, means for maintaining the generated vapors under pressure in contact with the surface of the oil in said retort and means for condensing the vapors.

Claim 14: An apparatus of the nature disclosed, comprising an elongated retort of restricted cross section, means for continuously supplying oil under pressure to said retort, means for locally applying high heat to the restricted volume of oil in said retort to convert or crack the same, means for maintaining the generated vapors under pressure in contact with the surface of the oil in said retort, means for collecting and returning to the source of supply portions of unconverted liquid carried by said vapors and means for condensing the remaining vapors.

Claim 15: An apparatus of the nature disclosed, comprising in combination, a closed chamber adapted to contain oil, means for heating the oil in said chamber to a cracking temperature, means for continuously forcing oil into said chamber under pressure, a condenser in free communication with said chamber and means for maintaining pressure in said apparatus to and through the condenser.

Claim 16: An apparatus of the nature disclosed, comprising in combination, a retort embodying a pipe-like section, means for locally heating the oil in said pipe-like section to a cracking temperature, means for continuously forcing oil into said section under pressure, a condenser in free communication with said chamber and means for maintaining pressure in said apparatus to and through the condenser.

Claim 17: An apparatus of the nature disclosed, comprising in combination, a source of oil, a receptacle connected therewith, and a heater combined with said receptacle adapted to be maintained at a cracking temperature in contact with the oil therein, an outlet for the oily vapors evolved by the action of said heater, a receptacle connected with said outlet and adapted to collect portions of the oily liquid carried by said vapors, means for returning said collected liquid to the action of said heater, and means for condensing the residual vapors.

Claim 23: An apparatus of the nature disclosed, comprising in combination, a source of oil, a receptacle connected therewith, means for maintaining oil under pressure in said receptacle, and a heater adapted to be maintained at a cracking temperature while in contact with said oil under pressure.

Claim 24: An apparatus of the nature disclosed comprising in combination a source of oil, a receptacle connected therewith, and a heater combined with said receptacle adapted to be maintained at a cracking temperature in contact with the oil therein, an outlet for the oily vapors evolved by the action of said heater, a receptacle connected with said outlet and adapted to collect portions of the oily liquid carried by said vapors, means for returning said collected liquid to the action of said heater, and means for condensing the residual vapors.

Patent No. 1,327,263

Claim 1: A process of treating high-boiling hydrocarbon oils to convert a relatively large percentage of the same into lower boiling hydrocarbon oils which consists in continuously supplying the high-boiling hydrocarbon oils to a closed chamber subjecting the high boiling hydrocarbon oils in liquid form to a cracking temperature in said closed chamber under pressure to evolve vapors of the desired lower boiling hydrocarbon oils and condensing said vapors by passing them through connections to a condenser, all of the connections to and through the condenser being in open communication so as to insure a substantially uniform pressure from the heater to the condenser.

Claim 2: A process of converting oil which consists in subjecting the oil to a cracking temperature under pressure in a closed chamber, supplying oil to said chamber during the cracking operation to maintain a body of liquid therein, and condensing the evolved vapors of the cracked or converted oil by passing said vapors through connections to a condenser all of the connections through and to the condenser being in open communication so as to insure a substantially uniform pressure from the heater to the condenser.

Claim 4: The method of treating hydrocarbons of high-boiling point to obtain hydrocarbon oils of lower boiling point which consists in heating the high boiling hydrocarbons in liquid form to a cracking temperature in a chamber under pressure and condensing the cracked vapors produced by passing the same from the said chamber to a condenser, supplying hydrocarbons of high-boiling point to said chamber during the cracking operation to maintain a proper supply therein, separating heavier products from the cracked vapors at a point between said chamber and said condenser and maintaining the connection from said chamber to and through the condenser in open communication so as to insure substantially uniform pressure from the chamber through the condenser, and returning said heavier product to said chamber whereby the desired low-boiling hydrocarbon oil is continuously and ultimately produced.

Claim 5: A method of converting oils which consists in continuously feeding oil under pressure to a chamber, heating said oil in liquid form in the chamber to a cracking temperature while maintaining a vapor pressure on said oil in said chamber, condensing the vapors generated, by passing them through connections to a condenser all of the connections to and through the condenser being in open communication so as to insure a substantially uniform pressure from the chamber through the condenser, withdrawing lighter condensate from the condenser, and returning heavier condensate to the said chamber for repetition of the treatment, whereby a lighter condensate is continuously produced as the ultimate product.

Claim 6: A process of converting oil which consists in causing oil to flow from a source of supply in a confined liquid stream restricted in cross section, heating said liquid stream to a cracking temperature, thereby generating vapor pressure, and condensing the cracked vapors by passing them under substantially

(Continued on Page 181)

F. A. PIELSTICKER DIES SUDDENLY WHILE VISITING IN CALIFORNIA

F. A. Pielsticker, vice president of the Skelly Oil Co. and former president of the Western Petroleum Association, died suddenly January 13, at Redlands, Calif. He had been in poor health for several months but was thought to be on the road to recovery when stricken.

Mr. Pielsticker was one of the most widely known oil men of the Mid-Continet Field. He was elected president of the Western Petroleum Refiners Association in 1925 and was re-elected the following year. His success as head of the Western Refiners brought favorable comment from all sections of the country. He continued active in association work following his retirement and served for a number of years as director of the American Petroleum Institute.

Mr. Pielsticker was born in Carrol, Iowa, and spent his youth on a farm. He graduated from Iowa State College receiving a degree in electrical engineering. He entered the oil business in 1902 at Spindletop and in 1917 joined the Midland Refining Co. of Eldorado, Kans., as a member of the board of directors and shortly afterwards was elected vice president and general manager. He continued in the same capacity when the Midland company was acquired by the Skelly Oil Co. He was connected with the latter company for a period of 11 years being in charge of the refining and marketing departments.

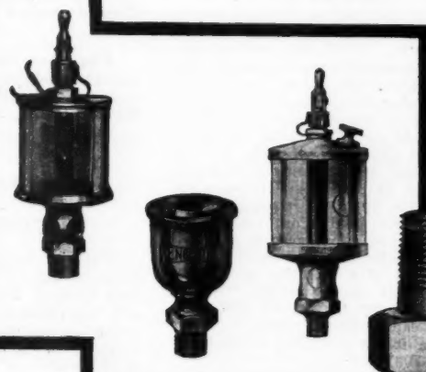
He is survived by his widow, two sons and one daughter.

F. A. Pielsticker

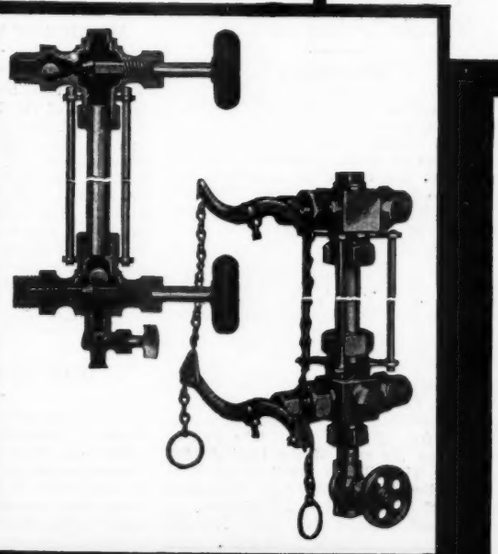
ALWAYS DEPENDABLE

PENBERTHY injectors, liquid level gages, and lubricating devices are universally used in field, refinery and natural gasoline plant because they have always been dependable under the most severe service conditions.

Penberthy Products are carried in stock by supply houses everywhere.



PENBERTHY PRODUCTS



PENBERTHY INJECTOR COMPANY

DETROIT

ESTABLISHED IN 1886

CANADIAN PLANT, WINDSOR, ONT.

BUYERS REPEAT OFFER TO TRADE OIL WITH PRAIRIE OIL & GAS CO.

The problem of finding buyers for the oil in the northeastern Oklahoma and eastern Kansas fields which have been without purchasers since January 1 has not yet been solved.

The following report made to E. B. Reeser, president of the American Petroleum Institute on Tuesday afternoon, January 13, gives the status of affairs up to that time:

"The subcommittee of representatives of the oil purchasing companies which you appointed met at 10:30 a. m., January 13, 1931, in the Mid-Continent Oil and Gas Association offices in Tulsa, Okla.

"A thorough study was made of the situation confronting those producers who were left without a market on January 1 by reason of discontinuance by Prairie Oil & Gas Co. of the purchase of their oil. As a result of this study and discussion the committee wishes to make the following statements:

"First—At the New York meeting of the American Petroleum Institute on January 8, there was a difference of opinion as to the exact amount of distress oil affected. Ray Collins, Oklahoma proration umpire, is compiling the exact information and accurate figures should be available Thursday, January 15, for the consideration of the committee.

"Second—A survey made by the committee indicates that the amount of distress oil which was indicated at 14,500 bbls. in the committee's last report, has by reason of various arrangements made

(Continued on Page 186)

OIL MAN'S CALENDAR

JANUARY

14-15—Minneapolis, Minn., Minnesoto division, Northwest Petroleum Association, Radisson Hotel.

19-23—Detroit, Mich., annual meeting, Society of Automotive Engineers, Book-Cadillac Hotel.

21-22—Milwaukee, Wis., Wisconsin Petroleum Association, Pfister Hotel.

23-24—Oklahoma City, Okla., Oklahoma Petroleum Marketers Association, Huckins Hotel.

24-31—Chicago, National Automobile Show.

27-28—Aberdeen, S. D., South Dakota Independent Oil Men's Association, Alonzo Ward Hotel.

29-30—Grand Forks, N. Dak., North Dakota division, Northwest Petroleum Association, Dacotah Hotel.

FEBRUARY

3-4—Des Moines, Iowa, tenth annual convention, Iowa Petroleum Association, Fort Des Moines Hotel.

16-21 — San Francisco, Calif., National Western Metal Congress and Exposition.

24-26 — Columbus, Ohio, Ohio Petroleum Marketers Association, Neil House.

MARCH

11-13—Detroit, Mich., Michigan Oil Men's Association, Statler Hotel.

16-22—Los Angeles, Calif., second annual Exposition, Oil Equipment and Engineering Exposition.

19-20-21 — San Antonio, Tex., American Association of Petroleum Geologists, Gunter Hotel.

30-3—Indianapolis, Ind., Eighty-first meeting, American Chemical Society.

APRIL

13-18—Philadelphia, Pa., eighth annual convention and exposition, American Oil Burner Association, Ben Franklin Hotel.

15-16—A.P.I. Division of Refining, Statler Hotel, St. Louis, Mo.

MAY

4-9 — Charlotte, N. C., Good Roads Convention.

Memphis, Tenn., Natural Gas Department, A.G.A.

13-14—A.P.I. Division of Marketing, Mayo Hotel, Tulsa.

JUNE

3-4—A.P.I. Division of Production, Baker Hotel, Dallas, Tex.

CALIFORNIA OPERATORS WARNED TO CUT OUTPUT

LOS ANGELES, Calif., Jan. 13.—Chairman Boggs of the operators general committee on curtailment has warned California producers that production must be brought down to the allowable of 500,000 bbls. per day at once or the entire plan will fail. He called attention to the matter, stating: "Since December 18 we have used every effort to bring production down to 500,000 bbls. There is still an excess of some 38,000 bbls. per day mainly due to the excess production in Venice and Santa Fe Springs. In my judgment full curtailment must be definitely accomplished this week for it will not be possible to continue curtailment at all if we cannot bring the State's production to 500,000 bbls. in that time.

"The responsibility rests squarely upon each individual field for no field can expect any other field to carry any part of its burden. If either Venice or Santa Fe Springs fails to do its part, the whole curtailment plan will fail. The purchasing companies cannot continue to handle in excess of 500,000 bbls. They are prepared to take up to this amount, including their own production, therefore if any one field or a producer in any field exceeds its allowable the result will be a production of a quantity of oil that cannot find an orderly market. With a disorderly market, the present crude price structure cannot be maintained."

The California proration schedule for January, 1931, follows:

	January potential B/D	January allotment B/D
Belridge	8,500	3,775
Brea-Olinda	23,670	10,590
Capitan	2,200	20
Coalinga	33,500	9,000
Dominguez	15,220	9,900
East Coyote	3,730	1,600
Elk Hills	29,650	13,650
Elwood	106,000	29,000
Fruitvale	9,170	2,500
Huntington Beach	44,440	20,330
Inglewood	22,330	16,000
Kern Front	20,250	9,400
Kern River	10,900	2,750
Kettleman Hills	67,600	22,500
Lawndale	350	250
Los Angeles	1,400	1,400
Long Beach	201,465	92,020
Lost Hills	6,500	320
Maricopa Flats	12,000	5,600
McKittrick	4,580	3,600
Midway-Sunset	92,100	50,000
Montebello	9,150	7,200
Mount Poso	22,575	8,500
Newport	30	30
Playa Del Rey	48,245	20,660
Potrero	1,800	825
Richfield	14,930	6,830
Rincon	3,000	1,050
Rosecrans	9,020	4,030
Round Mountain	13,200	60
Santa Barbara	515	150
Santa Fe Springs	137,500	64,000
Santa Maria	12,000	2,500
Seal Beach	35,585	16,285
Summerland	250	250
Torrance	12,455	5,700
Ventura Avenue	96,750	44,500
Ventura-Newhall	6,200	2,800
Watsonville	60	60
West Coyote	11,530	8,500
Wheeler Ridge	590	590
Whittier	1,450	1,250
Others	110	25
Total	1,151,500	500,000

GULF PIPE LINE COMPLETED

The pipe line extending from connections with the existing Gulf Pipe Line Co. at Tulsa, to Spencerville, Ohio, where connections have been made with the Buckeye Pipe Line Co. to transport the crude oil to the Todelo and Pittsburgh plants of the Gulf Refining Co., have been completed and the line is being subjected to a pressure test. Crude oil will not be shipped to the Toledo plant until March, when the expansion program of the former Paragon refinery will have been completed.

High Spots in Field News

OKLAHOMA

Largest Cromwell sand well in Wewoka estimated 5,000 bbls.

SOUTHWEST TEXAS

Tests starting in Kerr and Real Counties. New drilling in Jim Wells.

KANSAS

Rush County gas well makes 42,000,000 feet, one of largest ever found in state.

ROCKY MOUNTAIN AREA

Three new operations on Berthoud Dome, Colorado. Hobbs proration revised to 31,200 bbls.

GULF COAST

Clay Creek wildcats being watched. Subsalt drilling at Allen Dome. Refugio deep area expanded.

WEST TEXAS

Withdrawals from storage reach new high in West Texas. Unitized test planned in Central Ector County.

NORTH TEXAS AND PANHANDLE

Best well yet found in Moore County flows 1,000 bbls. in nine hours. Wichita Falls area more active.

NORTH LOUISIANA-ARKANSAS

Wildcatters active in both states but majority of completions in week failures. Leasing play along the Texas line.

EAST CENTRAL TEXAS

Well in Gregg County 12 miles north of Bateman well in northern Rusk County cores 4 feet of saturated sand and may open new pool.

CALIFORNIA

Chairman Paul N. Boggs of the operators general committee warns producers production must be reduced to 500,000 bbls. at once or entire plan will fail. North Belridge Field production being limited. New test on Middle Dome, Kettleman Hills.

Late Fields

EAST CENTRAL TEXAS

FORT WORTH, Tex., Jan. 12.—The Bateman well in northern Rusk County, East Central Texas, has been reported sold, two-thirds to the Humble Oil & Refining Co. and one-third to the Gulf Production Co., for a reported consideration of $1,600,000, part cash and part oil.

OKLAHOMA

The production from the Oklahoma City Field on January 12 was the lowest in many months when it gauged 23,087 bbls. from 31 wells. The field umpire's crews are still taking the potentials and expect to finish in a few days. The production for the last seven days ending January 12 was as follows:

Date—	Prod.	Wells prod.	Wells comp.
January 6	113,175	84	684
January 7	119,476	84	685
January 8	82,577	73	686
January 9	88,742	73	688
January 10	56,110	48	688
January 11	38,467	47	688
January 12	23,087	31	688

Phillips Petroleum Co.'s No. 1 McAusland, SE cor. SW, Section 10-11-3w, flowed 8,897 bbls. in four hours with 37,000,000 feet of gas a day. The well is located on the edge of the Capitol Hill district. The oil was found in the Wilcox sand at 6,359-6,557 feet. The well made 635 bbls. of oil in 15 minutes.

Cromwell-Franklin Oil Co.'s No. 32 Trosper Park, NE cor. SE NE, Section 14-11-3w, produced 58 bbls. of oil in three hours with 57,000,000 feet of gas a day

Burke-greis Oil Co.'s No. 2 Henshaw, NW cor. NE SW Section 30-8-8, flowed 4,950 bbls. in 24 hours from the Cromwell sand at 3,138-67 feet.

Payne Drilling Co. and others' No. 4

(Continued on Page 186)

MOTHER OF W. S. FARISH DIES

HOUSTON, Tex., Jan. 13.—Mrs. Kate Power Farish, mother of W. S. Farish, president of the Humble Oil & Refining Co.; S. P. Farish, president of the Farlyn Oil Co.; and R. D. Farish, of the Navarro Oil Co., died at her home here today. Mrs. Farish, who was prominent in Houston activities, came to this city in 1919. She was born in Natchez, Miss., in 1859. She was the mother of eight children, four of whom survive her, including the three sons and a daughter, Miss Rosalie Farish. Her husband died in 1899.

The body was taken to Natchez for burial.

IRAK PIPE LINE GRANT

Two conventions between the governments of Palestine and Trans-Jordania on the one hand and the Irak Petroleum Co. on the other were signed January 12 in connection with the construction of pipe lines to carry oil from the Mosul wells to the Mediterranean.

SCORE SHEET ON OIL PRODUCTION

Below is shown allotted average daily production in the United States from October 1, 1930, to April 1, 1931, suggested by the American Petroleum Institute's special committee on the economic situation, and the actual daily average production during the week ending January 10:

	Allotted (bbls.)	Actual (bbls.)	Over (bbls.)	Under (bbls.)
Okla., Kans., S. W. Tex., N. Tex.*	953,700	837,679	.....	116,021
W. Tex. and S. W. New Mexico	316,300	275,940	.....	40,360
North Louisiana-Arkansas	86,400	92,095	5,695	.....
Gulf Coast	177,800	176,966	.....	834
Rocky Mountain	58,600	55,080	.....	3,520
California	530,100	534,250	4,150	.....
Other fields	110,600	109,000	.....	1,600
Total	2,233,500	2,081,010	9,845	162,335

Net average daily underproduction 152,490 bbls.

*North Texas includes North, Central and East Central Texas and Texas Panhandle.

Want More Oil From Oklahoma City

Group of Operators Ask That Other Flush Areas Be Cut Down to Give Big Pool Larger Share in State's Production

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Crude oil production in Oklahoma is being kept well within the estimated requirements of the early part of the year. The State's daily average for the week ending January 10 was approximately 457,000 bbls.

The Oklahoma City Field will have another outlet for its production when the Continental Oil Co. completes its new 8-inch pipe line from the main system near Tonkawa to the Oklahoma City Field. The line is expected to be ready to test on or about January 20 and will be running crude oil from the company's leases in the south end of the field to its refinery at Ponca City about February 1. The contract for the work was let to Truman & Smith of Eldorado, Kans., on December 3. and work started immediately.

At the present time only one pump station will be built, it being at the Oklahoma City end of the line. The line is expected to have a capacity of 12,000 bbls. of oil a day, and with an additional station the capacity can be increased to 20,000 bbls. a day.

Proration in Oklahoma will continue under the order signed by the governor and two members of the Oklahoma Corporation Commission Friday January 9. Ray M. Collins is retained as state proration umpire with Otto Bradford, Oklahoma City Field umpire, as assistant. The personnel of the seven enforcement committees is as follows: Class A wells, C. Jacobson, J. B. Steele, R. Roark, R. H. Huey; southern Oklahoma fields, S. Embrey, F. M. Porter, P. Shaner, H. B. Fell, J. Ray and C. Mores; Allen Pool, H. B. Smith, C. H. Wright, George Moody; Lovell Pool, Logan County, H. D. Agers, Glen Harroun, Bond and Church; Greater Seminole area, East and South Earlsboro and Konawa Pools, J. S. Sidwell, J. J. Conry, R. F. MacArthur, K. Winship and L. C. Hawkins; Oklahoma City Pool, M. J. Kirwan, J. S. Sidwell, Wirt Franklin, R. Roark and Glen Harroun; West Asher-Wanette Pool, R. Roark, J. S. Sidwell and M. J. Kirwan.

Proration of production in Osage County will be changed under the new proration order which increases the allowed production from 5 bbls. per well to 10 bbls. per well. The Interior Department is preparing to make the change to comply with the new proration plan.

A recent survey of the Oklahoma City Field made at the time the field had 670 wells completed indicates 211 wells were making water, 34 of which were sand wells and the remainder lime wells. All of the lime-producing wells in the field are believed to be making water with the exception of the Shell Petroleum Corp.'s No. 3 Petty, NE cor. SE Section 30-11-2w. The gas pressure is low in the south end of the field, indicating a loss in total recovery.

Want More Oil Run

The application for the increased flow was filed by the independents January 11 with the Oklahoma Corporation Commission. The petition was signed by the following operators in the field: E. W. Jones of Blackwell Oil & Gas Co., Acme Oil & Gas Co., Reynolds & Unruh, Mid-Texas Petroleum Co. and L. C. and M. A. Hivick. The action is independent of the present proration plan and it is believed an increase in the allowable flow is desired by the others.

The change in the present proration order would permit a greater allowable outlet from the field. The operators believe this could be done by reducing the allowable flow of the other flush fields in the State, particularly in the Greater Seminole area.

The petition will be presented to the commission in a few days and the change will be requested as soon as the Continental Oil Co. completes its new pipe line into the Oklahoma City Field. It is expected the Continental Oil Co. will be ready to start testing its new line in about a week and it can then start moving crude oil to its Ponca City refinery.

Some of the operators are in favor of increasing the flow from the wells in the Oklahoma City Field to allow the small refineries in the vicinity to get a supply of crude to continue operations. These refineries have been unable to make regular runs under the present proration order.

It is believed that some of the operators in the area that have been opposing the proration order now in effect in the Oklahoma City Field would be willing to give up the attempts to remove proration if they were assured of a change in the allowable which would increase it to 7½ or 10 per cent of the potential production.

Field Umpire Otto Bradford and his staff are still taking potentials from wells in the field. The survey reveals that some of the recently completed wells are not holding up in production as operators anticipated. The survey also includes some of the older wells of the field. Some express the opinion the potentials now being established will show a substantial decline, at least 25 per cent less than the amount that was considered conservative by members of the proration committee.

During the 12-day period ending January 3, according to the umpire's report, the Oklahoma City Field reduced its number of underproduced wells and emptied its field storage tanks a substantial amount. Stocks of crude oil held in field storage on January 3 were 1,065,707 bbls. compared to 1,202,714 bbls. on December 22. The net underproduction of the field on January 3 was 145,486 bbls. compared to 506,114 bbls. on December 22. Included in the report were 667 completed oil wells. In addition to the oil wells there were 17 gas wells which supply gas to make casinghead gasoline, carried as overproduced for a total of 61,540 bbls. during the same period. Total field stocks of gasoline were 2,242 bbls. Two gasoline wells were underproduced for a total of 168 bbls.

Big Wells in Wewoka

During the week one of the largest wells completed in the Wewoka townsite pool, was opened up after a short proration shutdown, and was found to be dead. It may be drilled deeper in an effort to revive the flow. The well was Mid-Kansas Oil & Gas Co.'s No. 2 Davis, NE cor. SE NW, Section 30-8-8, which had an initial flow of 16,462 bbls. the first 24 hours. The tools were run to the bottom of the well and after cleaning out it resumed its flow. The same operators' No. 3 Davis, SE cor. NE NW, Section 30-8-8, completed its 24-hour initial and made 14,351 bbls.

Droppleman Drilling Co. and others' No. 1 Lack, SW cor. SE NW, Section 30-8-8, was being completed as a producer in the Cromwell sand at 3,070-3,144 feet. It made 400 bbls. in five hours and was shut in. The well extended production one location to the west.

The Deep Rock Oil & Refining Co.'s No. 2 Douglass (60 acres), NE cor. SW, Section 30-8-8, which was on fire, is rigging up to drill deeper. It has been making some oil. The total depth of the well was 3,087 feet in what is believed to be the Cromwell sand. It is a triplet location.

Ligon & Todd's No. 1 Wilson, NW cor. NE, Section 30-8-8, is the first test to find water in the Wilcox sand in the Wewoka townsite pool. Water rose 2,500 feet from the Wilcox sand at 4,123-24 feet.

South of the Wewoka townsite pool, in Seminole County, Empire Oil & Refining Co. will make a Wilcox sand test at its No. 1 Scroggins, SW cor. SE SE, Section 20-7-8, near the Seminole-Hughes County boundary line. The test found water in the Cromwell sand at 3,169 feet and is shut down at 3,234 feet. The test is located about 3 miles south of the Wewoka Pool.

The Magnolia Petroleum Co. has announced three locations in the Greater Seminole area. Two in the Allen Field in Pontotoc County and one in the East Little River Pool, Seminole County. No. 1 Whitney, SW cor. SE, Section 24-5-7, and No. 1 Reed, NE cor. NW NE, Section 26-5-7, Pontotoc County, are both recent locations. The other is No. 1 Spalding, SE cor. NW NE, Section 6-7-7, Seminole County.

Carr City Pool in Seminole County which was extended to the north is receiving its share of development. The Prairie Oil & Gas Co. and Tom Slick Oil Co.'s No. 5 Hyde, SE cor. NW, Section 2-8-5, is a new location on the west edge of the area.

The Prairie Oil & Gas Co. and Tom Slick Oil Co.'s No. 1 Parkinson, SW cor. NW, Section 22-7-2w, McClain County, wildcat is being abandoned at a total depth of 6,652 feet in shale. The test is believed to be running low on the structure and the Wilcox sand would be found too deep to produce. A slight showing of oil was found at 4,455-75 feet, but was not tested. The contract depth of the test was 6,500 feet.

New Pool in Noble County

Prairie Oil & Gas Co. completed second well in new area in Noble County indicating the opening of another pool northeast of Perry. Prairie Oil & Gas Co.'s No. 1 Uppleman, SW cor. NW, Section 22-22-2, found the top of the Layton sand at 3,301 feet and at 1 foot in the Layton sand it had a showing of oil and gas, giving the area its second well in the last year. Drilling has been suspended to make a production test. Formations are believed to be running higher than those in the discovery well. The same company's No. 1 Wentz, NW cor. SW. Section 22-22-2, drilled and completed about a year ago as the discovery well but has been shut in is estimated to be capable of making 85 bbls. a day when pumped. The producing sand was found lower than the No. 1 Uppleman.

The Magnolia Petroleum Co.'s No. 2 Woolleson, NE cor. SE NE, Section 21-21-2w, is shut down. The well made an initial production test of 2,740 bbls. of oil from the Misener sand in 24 hours and was pinched to 800 bbls. a day. It is awaiting pipe line connections as all the available tankage on the lease is full. The Misener sand was found from 5,202-23 feet.

The same company has staked another location offsetting the well to the east, for No. 3 Young, NW cor. SW NW, Section 22-21-2w. The discovery well in the area, No. 2 Young, NE cor. NW NW. Section 22-21-2w, has been producing at the rate of 500 bbls. a day pinched.

In the Waltermeyer Pool, southwest of Perry, Empire Oil & Refining Co.'s No. 2 Freyler, SW cor. NE, Section 4-20-1w, found 3,250,000 feet of gas at 3,449 feet and was drilling deeper. Magnolia Petroleum Co.'s No. 2 Summers,

(Continued on Page 159)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Shut down 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Drlg. 4,889 ft.

ATOKA COUNTY

Edgerton-Edwards' No. 1 Roland, C NW Sec. 9-1-15	Shut down 600 ft.

BECKHAM COUNTY

Price-McFann's No. 1 Webster, C SW SW Sec. 34-8-26w	Shut down 765 ft.
Mid-Continent's No. 1 Schaff, C NE SW Sec. 22-11-22w	Waiting on cement to set 480 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-2-22w	Drlg. 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 34-10-24w	Fishing 2,570 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	Shut down 4,605 ft.

CADDO COUNTY

Magnolia's No. 1 White, SW SE Sec. 25-6-10w	T. D. 5,012 ft.; plugged back to 3,065-3,100 ft.
Abernathy & Brown's No. 2 Houston, Sec. 24-6-13w	Shut down 1,105 ft.

CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1	Shut down 6,760 ft.

COAL COUNTY

McGraw Oil Co.'s No. 1 Ward, NE SE Sec. 35-1-8	Rig.
Whitney et al's No. 1 Miller, SE NE Sec. 10-2-8	Drlg. 750 ft.

COMANCHE COUNTY

Croy & Young's No. 1 Cline, NW NE NE Sec. 8-3-10w	Shut down 2,221 ft.
G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	Shut down 1,450 ft.

GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	Shut down 5,825 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w	Shut down 100 ft.
Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e	Shut down 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE NW Sec. 10-9-18e	Shut down 2,387 ft.

GREER COUNTY

French's No. 1 Murphy, SW NW Sec. 23-7-21w	Drlg. 925 ft.

HARMON COUNTY

Harmon-Tex Oil Co.'s No. 1 Hoadley, NE cor. Sec. 17-4-24w	Shut down 2,593 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w	Shut down 625 ft.

HARPER COUNTY

Empire's No. 1 Bruce, C NE SW Sec. 12-26-20w	Drlg. 7,905 ft.
Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w	20,000,000 ft. gas 5,350-5,400 ft.; total depth 8,589 ft.; shut down; sprayed 50 bbls. gasoline.

HASKELL COUNTY

Ault et al's No. 1 Hall, NW SW SW Sec. 14-9-19	Drlg. 1,765 ft.
Ault et al's No. 1 Hall, SE NW Sec. 25-9-19	Rig.
I. T. I. O.'s No. 1 Blake, SW NW Sec. 3-10-21	Shut down 3,007 ft.
Mid-Western's No. 1 Poister, C NE SE Sec. 33-10-22	Shut down 4,297 ft.

HUGHES COUNTY

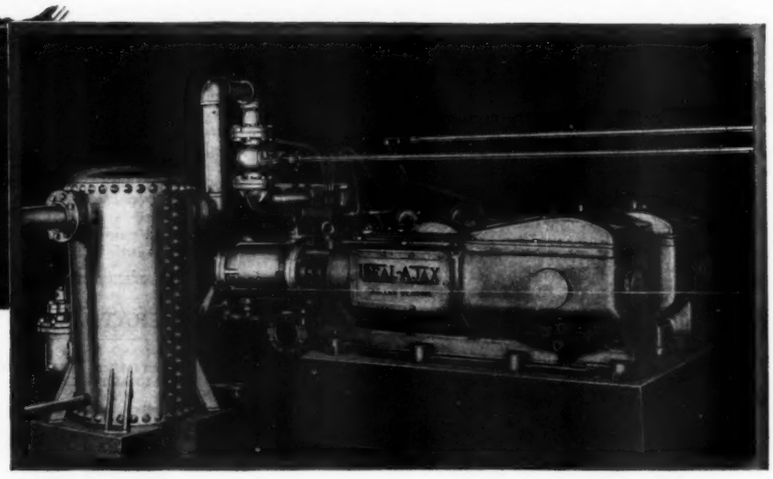
Wright et al's No. 1 Ott, SE SW Sec. 15-5-11	Shut down 1,645 ft.

(Continued on Page 152)

50 Years *in the*

THE history of oil well drilling is likewise the history of AJAX development of steam drilling power.

Decade after decade, keeping pace with the demand for speed and more power, AJAX and IDEAL-AJAX have made records in every prominent field of operations.



Ideal-Ajax Roller Bearing Engine in Roumania.

SUPER POWER

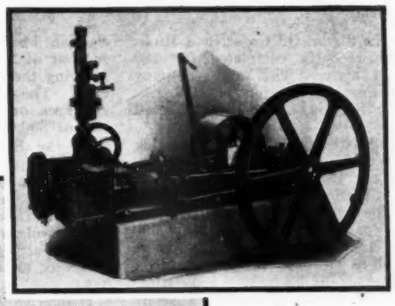
IDEAL-AJAX Roller Bearing Engines are built in both balanced slide valve and piston valve types. Roller Bearing Engines with balanced slide valves are recommended for use with low pressure saturated steam. Piston valve type engines are recommended for both high pressure saturated and superheated installations.

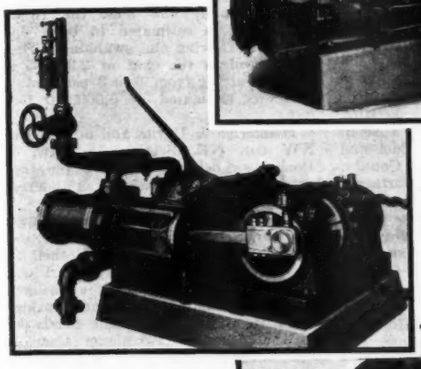
Standard equipment with both slide and piston valve types includes extra heavy steam separator receiver with automatic condensation trap.

Ask the National Supply Man for details of the latest IDEAL-AJAX 12x12 Twin Cylinder, Roller Bearing, Enclosed Engine. For Engineering Data, address AJAX IRON WORKS, Corry, Pa.

Oil Fields *of the* World

Ajax Single Cylinder Open Type 10, 10½, 11, 11½ and 12x12; also 13x14, 14x14, 14x16 and 16x16. →

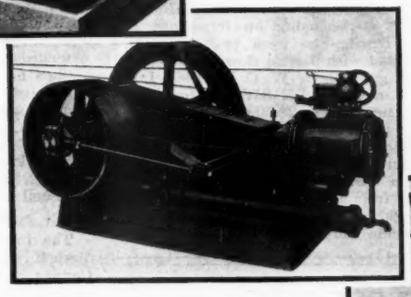




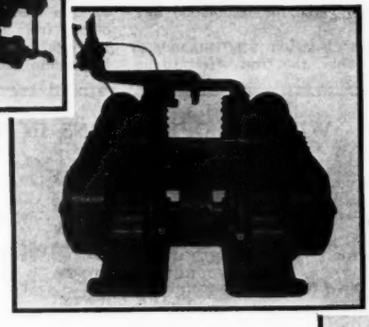
Ajax Twin Cylinder 10x10 Open Type ←

AJAX Triumphs

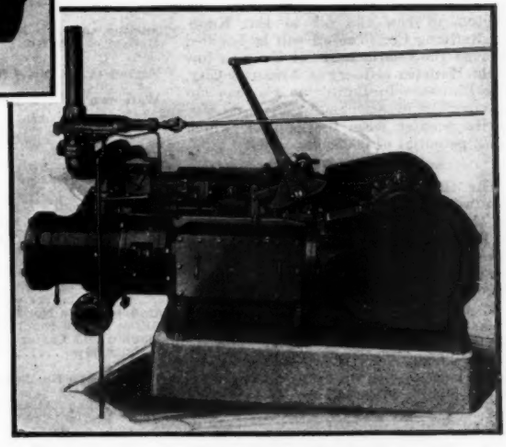
Ajax and Ideal-Ajax Engines are furnished in several types and sizes to meet every cable tool and rotary drilling requirement.



Ajax Single Cylinder Enclosed Type In 10, 10½, 11, 11½ and 12x12; also 13x14 and 14x14 sizes.



Ajax Twin Cylinder Semi-Enclosed Type 10x10 Size. ←



Ajax Twin Cylinder, Plain Bearing, Semi-Enclosed Type. In 11x11 and 12x12 sizes.

IDEAL-AJAX

ROLLER BEARING

STEAM DRILLING ENGINES

Sinclair Increases Runs in Voshell Pool

Refinery Requirements Given as Reason. May Be Only Temporary Measure. More Big Gas in Western Kansas

By W. A. Spinney
Staff Correspondent, Kansas Fields

Kansas operators were curtailing the flow of oil from the flush areas as the State's production shows a decline of approximately 3,000 bbls. a day from the previous week. The total average daily production for the week ending January 10 was approximately 105,500 bbls. The State is without any proration plan with the exception of a few of the flush areas which are being curtailed by local operators.

During the week the Sinclair Oil & Gas Co. increased the flow of oil from its leases in the Voshell Pool in McPherson County from 2,500 bbls. a day to 5,000 bbls. a day, which is an increase to approximately 38 per cent of the potential. The company states it is only a temporary action caused by the shutting in of a supply of crude which has been coming from Sinclair properties in the Texas Panhandle. As soon as arrangements can be made to find a supply of crude oil to meet its requirements the company will shut in its wells in the Voshell Pool, and make up the overage which it was forced to take.

The decision to increase the flow from its leases in the Voshell Pool was made because the oil is the nearest supply the company has to its refinery at Argentine, Kansas City, Kans. It is not believed the Sinclair Oil & Gas Co. action will make any difference in the policy of other companies with production in the area. Some of the operating companies in the Voshell Pool are still without a pipe line connection.

W. C. McBride, Inc., is without a pipe line connection and is preparing to build two 55,000-bbl. storage tanks on its lease in the pool in Section 9-21-3w. These tanks are expected to be ready in a few weeks. Gypsy Oil Co. is also without a pipe line connection.

In the Eastborough Pool, in Sedgwick County, the Blankenship Petroleum Co. has secured a market for its oil production by obtaining a pipe line connection to run the oil to the Kanotex Refining Co. The oil will be handled through the Continental Oil Co. pipe line to the Kanotex refinery at Arkansas City. The Blankenship Petroleum Co. has approximately 12,000 bbls. of oil in storage on its Schafer lease in the pool, which has a potential of 600 bbls. a day.

Sale in Russell County

The first large property sale of the year was announced by the Austin Drilling Co. of its discovery well and acreage in Russell County to the Agate Oil & Gas Co. No consideration was given out. The transaction includes the No. 1 Rockefellow well in the SE cor. Section 6-13-12w, and 1,280 acres of leases in the block. The Agate Oil & Gas Co. during the first half of the year sold approximately 200,000 acres of leases in the Hugoton gas area in Stevens and Morton Counties in southwestern Kansas. As soon as the titles are approved the test will be drilled deeper into the oil sand which was found from 3,042-44 feet, where it bailed 18 bbls. of oil in three hours.

The Signal Oil Co.'s No. 1 Rude, NE cor. SE SE Section 28-15-13w, Russell County wildcat, flowed 600 bbls. of oil in 24 hours from the Silicious lime at 3,349-52 feet. The well is located about 3 miles northwest of the Sellens Pool, in the same county, and opens a new producing area, for the county.

Fisher & Lauch's No. 2 Shafer, NE cor. SE NW, Section 30-27-2, in the Eastborough Pool, Sedgwick County, a twin well, found 2,000 feet of oil in the chat at 2,967-87 feet. The test is a twin to a chat sand producer and will probably be drilled to the deep sand.

Skelly Oil Co.'s No. 1 Miles, SE cor., Section 30-27-10w, a wildcat oil test 2 miles north of the town of Cunningham, in Kingman County, was tested for production and made 145 bbls. of oil in eight hours early in the week. The oil was coming from the Lansing or Oswald lime at 3,385-93 feet. The oil tests 36° gravity, corrected. The well was flowing about 50 bbls. every three hours. The gas was escaping between the 8 and 10-inch casing and was giving trouble. When the gas has been mudded off it will be drilled deeper. After the well is swabbed down it filled up 2,500 feet with oil within an hour. When the well is completed regardless of its size it will be shut in indefinitely, or until the market conditions improve.

In the northeastern part of Kingman County, Aladdin Petroleum Corp. and others' No. 1 Schragg, SW cor. NW, Section 16-27-5w, landed the 8-inch casing at 3,777 feet. It was drilled deeper to 3,835 feet with nothing showing and was shut down.

Gas in Rush County

Another important gas discovery was made in Rush County during the week when the Syndicate Oil & Gas Co.'s No. 1 Tammen, C SW, Section 11-18-16w, Rush County, found 15,000,000 feet of gas from the conglomerate at 3,497-3,501 feet. The gas blew down to approximately 3,500,000 feet and will be drilled deeper when a gate valve has been installed. The well is located about a half mile south of the same company's No. 1 Eitel, which was completed for 19,000,000 feet of gas.

Another new location was announced in Russell County, the first offset to be drilled to the Signal Oil Co.'s No. 1 Rude, which was recently completed for 280 bbls. in 14 hours. The same company has made another location in NW cor. SW SW, Section 27-15-13w, Russell County.

In the Eastborough Pool, Sedgwick County, Work and others' No. 1 Freeman, NE cor. NW, Section 19-27-2, is being tubed for pumping and will be completed. The well has been without a pipe line connection but the Magnolia Petroleum Co. has connected and will run the oil to storage.

The Reserve Oil Co.'s No. 1 J. Ritz, SE cor. SW, Section 31-19-1w, a semi-wildcat test between the Ritz Pool and the Canton Pool in McPherson County, which was being considered a northeast extension to the Ritz Pool, found oil and water in the chat. The chat was found from 2,938-98 feet, and the fluid rose 2,500 feet in the hole. It was swabbed and made 70 bbls. of oil and 40 bbls. of water.

Decker Gas Area

The Decker gas area in McPherson County is becoming an important gas area. During the week two wells were completed with a total flow of 54,500,000 feet of gas a day. W. C. McBride, Inc.'s No. 1 in the C NE SW, Section 14-19-2w, was gauging 28,500,000 feet of gas a day from the chat at 2,892-2,921 feet. McPherson Oil & Gas Co. and Shell Petroleum Corp.'s No. 1 in the C SW NE, Section 14-19-2w, made 24,000,000 feet of gas from the chat at 2,880-2,937 feet.

McPherson Oil & Gas Co. and Shell Petroleum Corp.'s No. 1 in the NE cor., Section 14-19-2w, had a showing of gas in chat at 2,880-82 feet, and was underreaming the 8-inch to land on top of the chat. The above wells give the Decker gas area an estimated daily gas potential of 300,000,000 feet.

In the Ritz Pool, Otstot and others' No. 1 Munn, NW cor. SW SW, Section 6-20-1w, made 499 bbls. the first 12 hours and is estimated to be a 1,000-bbl. well, flowing and swabbing. The oil was found in the chat at 2,917-85 feet. It was cutting from 1 to 3 per cent. The gas was estimated at 5,000,000 feet a day.

Helmerich & Payne and others' No. 1, NW cor. NE, Section 18-20-1w, Ritz Pool, was believed to have the top of the chat at 2,937 feet. It was underreaming the 8-inch casing at 2,525 feet.

Shell Petroleum Corp.'s No. 1 Inman, SW cor. SE NE, Section 16-21-3w, in the extension area south of the Voshell Pool, in McPherson County, has the Viola at 3,377-83 feet with nothing showing and was underreaming the 6-inch casing to 3,377 feet. The test is the north offset to the Amerada Petroleum Corp. and Stanolind Oil & Gas Co.'s new well which extended production a half mile south.

Two new tests offsetting the recently completed well of Study & Turner in Reno County were announced during the week. Collingwood & Palmer's No. 1 Goering, NW cor. SE, Section 1-23-4w, and McPherson Oil & Gas Co.'s No. 1 Goering, SW cor. NE, Section 1-23-4w, on Shell Petroleum Corp. acreage.

Potential Production

The total potential production of the Voshell and Ritz Pools in McPherson County is 105,217 bbls. according to the state umpire's report of January 1. The potential of the two pools is equal to the actual average daily production of the entire State.

The potential production of the Ritz Pool, in McPherson County, increased according to the report of State Umpire T. C. Johnson, issued January 1, over the potentials of December 1. Twenty-three wells in the pool show a daily potential of 35,578 bbls. The present pipe line outlet is approximately 5,700 bbls. a day. The operators are allowed to produce approximately 16 per cent of the potential until new wells are added to the area or some change in the pipe line requirements is made. The potential production of the Ritz Pool, by companies and wells is as follows:

Company and well—	Bbls.*
Lario, No. 1 Miller	1,180
Lario, No. 2 Miller	2,584
Lario, No. 1 Ritz	480
Lario, No. 1 A Ritz	4,360
Otstot & Poling, No. 1 Munn	1,000
Palmer et al, No. 1 Ritz	1,590
Palmer et al, No. 2 Ritz	2,016
Palmer et al, No. 1 Winn	3,120
Shell, No. 1 Holmes	10
Shell, No. 1 B. H. Koehn	102
Shell, No. 1 J. B. Koehn	198
Shell, No. 1 Miller	3,335
Shell, No. 1 Ritz	82
Shell, No. 2 Ritz	46
Shell, No. 3 Ritz	175
Stanolind, No. 1 Flook	470
Stanolind, No. 2 Flook	1,195
Stanolind, No. 3 Flook	2,154
Texas, No. 1 Munn	703
Texas, No. 2 Munn	1,897
Texas, No. 3 Munn	3,238
Texas, No. 4 Munn	3,020
Texas, No. 5 Munn	2,623
Total	35,578

*Potential production.

The potential production of the Voshell Pool, shows an increase over the previous month's gauges. The potential January 1 was 69,639 bbls. from 94 wells according to Umpire Johnson's report. The operators are permitted to produce 18.91 per cent of the quantity named. The

(Continued on Page 163)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Company, farm and location— Remarks:
Allison & Fitzwilliams' No. 1 Kumberg, SE SW SE Sec. 2-30-15w ..... Drlg. 4,680 ft.

BARTON COUNTY

Skelton Oil Co.'s No. 1 Ott, C SE SE Sec. 16-19-14w ..... Shut down 820 ft.
McCool et al's No. 1 Tsern, NW SE NE Sec. 12-20-11w ..... Shut down 1,600 ft.

BUTLER COUNTY

Farrell et al's No. 1 Sutton, NW cor. Sec. 18-28-7 ..... Shut down 1,875 ft.

CLARK COUNTY

Watchorn's No. 2 Morrison, NW NE Sec. 20-32-21w ..... T. D. 6,909 ft.; plugged back to 6,530 ft. to test show gas.

CLAY COUNTY

Crystal Oil et al's No. 1 Tivier, SW cor. Sec. 19-8-2 ..... Shut down 2,390 ft.

COFFEY COUNTY

Heyburg's No. 1 Kroft, SE SW SE Sec. 30-22-14 ..... Shut down 1,150 ft.
Roberts et al's No. 1 Hay, SW SE NW Sec. 32-22-15 ..... Fishing 1,250 ft.

COWLEY COUNTY

Roth & Farout's No. 1 Reedy, SW NW NE Sec. 8-32-8 ..... Shut down 1,040 ft.
Tom Fine's No. 1 Boyd, NW NE Sec. 23-32-4 ..... Shut down 2,650 ft.

DICKINSON COUNTY

Severs et al's No. 1 Lavengood, NE SW Sec. 13-13-2 ..... Drlg. 3,210 ft.

ELLSWORTH COUNTY

Hershey et al's No. 1 Schultz, C NE Sec. 9-14-8w ..... Rig.
Alyward et al's No. 1 Stratman, SE NW SE Sec. 1-17-10w ..... Spudding.
Aladdin Pet.'s No. 1 Stoddenberg, C SW Sec. 22-16-10w ..... Shut down 1,130 ft.
Milton et al's No. 1 Kester, SE NE Sec. 6-14-9w ..... Shut down 330 ft.
Aladdin and Carter Oil Co.'s No. 1 Barecky, C NW Sec. 3-16-10w ..... Shut down 2,718 ft.

FORD COUNTY

Swain et al's No. 1 Taylor, C NW Sec. 21-25-24w ..... Shut down 4,300 ft.

GOVE COUNTY

Johnson and Atlantic's No. 1 Wright, SE NE Sec. 11-12-27w ..... Drlg. 4,050 ft.
Valerius & Baucher Oil Co.'s No. 1 Todd, NW cor. Sec. 24-13-27w ..... Shut down 4,666 ft.

GRAHAM COUNTY

Schleimeyer et al's No. 1 Clark, SW NE NE Sec. 11-9-25w. Fishing 3,790 ft.

HARPER COUNTY

Beeler et al's No. 1 Bear, C NE Sec. 21-36-6w ..... Shut down 1,830 ft.

KINGMAN COUNTY

Skelly Oil's No. 1 Miles, NE cor. Sec. 30-27-10w ..... 1,635-40 ft. 2,000,000 ft. gas; at 2,005-20 ft., 6,000,000 ft. gas; at 2,133-42 ft., 3,000,000 ft. gas; showing oil 3,385-93 ft.

KIOWA COUNTY

Phillips-Prairie's No. 1 Bean, NE SE Sec. 10-30-17w ..... Underreaming 6-in. csg. 5,200 ft.
McKenna et al's No. 1 Ralston, C NE Sec. 14-28-20w ..... Rig.

LYONS COUNTY

Griffith et al's No. 1 King, NW cor. Sec. 8-19-10 ..... Shut down 910 ft.

MARION COUNTY

Aladdin Pet.'s No. 1 Koch, NW NE Sec. 36-17-3 ..... Rig.
Midwell's No. 1 La Master, NW cor. Sec. 31-22-4 ..... Fishing 625 ft.

McPHERSON COUNTY

United Pet. Co.'s No. 1 Kalgi, NE cor. Sec. 20-19-1w ..... Shut down 1,785 ft.
Henderson & Holden's No. 1 Sommerfield, NE SW Sec. 23-19-1w ..... Drlg. 2,917 ft.
Aladdin Pet.'s No. 1 Rudolph, NW NE Sec. 36-18-3w ..... Rig.
Slick et al's No. 1 Randall, C SW SW Sec. 35-17-3w ..... Drlg. 2,475 ft.
Aladdin Pet. Co.'s No. 1 Larson, C NW Sec. 22-18-4w ..... Rig.

(Continued on Page 150)

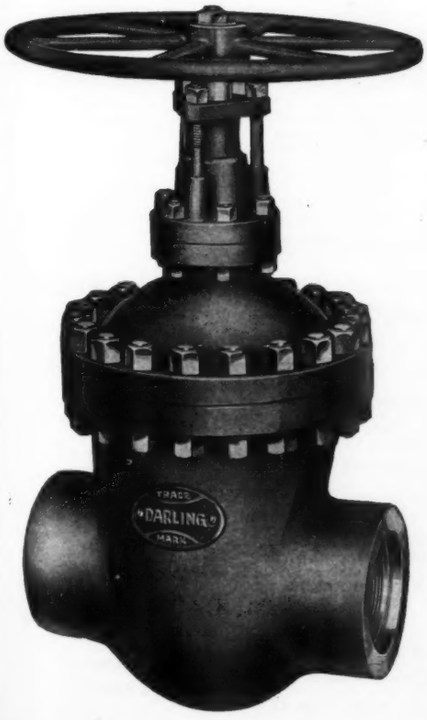
The Darling Reporter asked . . . . . "Have you had any serious trouble with DARLING VALVES?"

"No—nor minor troubles either for that matter. We've had Darlings on our lines for some years—and we actually do install them and forget them. Yes, sir, what we save in maintenance costs quickly offsets the slightly higher purchase price of Darlings."

Many others have found Darling Valves a good investment over a period of time.

Their sound mechanical construction, with the exclusive revolving gate disc feature, is an all-important factor. The high quality of Darval semi-steel metal and Dar-a-loy bronze trimmings—the forged steel, which we recommend when encountering high pressures—the exacting workmanship, inspections and tests—all contribute to the long life and satisfactory service of Darling Gate Valves.

At any time we'll be glad to send you complete information.



DARLING
GATE VALVES

DARLING VALVE & MANUFACTURING CO.
Williamsport, Pa.

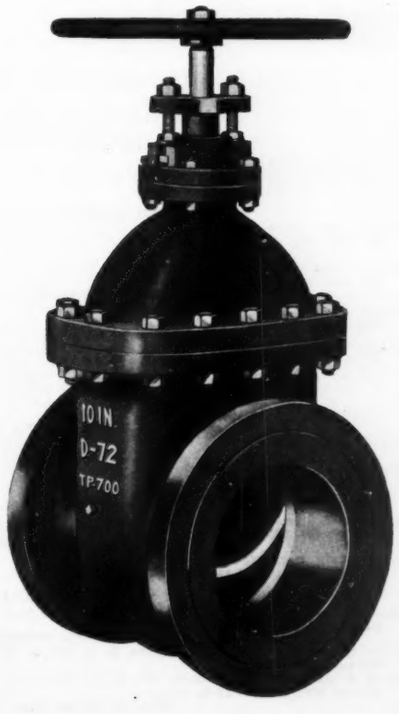
NEW YORK LOS ANGELES HOUSTON
OKLAHOMA CITY

Mid-Continent Distributors:
Frick-Reid Supply Corp. International Supply Co.

Foreign Sales Manager
H. M. Hein
Room 1405, 152 West 42nd Street
New York, N. Y.

Darling Forged Steel Gate Valve, Dar-a-loy trimmed. For Drilling well control, flow lines and other hazardous conditions.

Darval Semi-Steel Gate Valve, Dar-a-loy trimmed. Made in all sizes for general field use, pipe lines, drilling through, well control and well flow lines.



Louisiana-Arkansas Wildcatters Active

Majority of This Class of Completions Last Week Were Failures. Big Leasing Play Along Texas State Line

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Jan. 12.—Completion of a number of wildcats and semi-wildcats in widely scattered localities of this division featured an otherwise quiet week. Louisiana Gas & Fuel Co.'s No. 2 Saunders, Section 42-8-10, in the east central part of the State, was a salt water hole at 1,528 feet. After a salt water test at 2,905 feet on No. 1 Marsh McMillan, SE NW, Section 26-9-6, Catahoula Parish, National Drilling Co. set 600 feet of blank liner with packer at 3,035 feet and bailed dry at 3,045 feet, testing water again at 3,086 feet where it is shut down. Hudson and others' No. 1 Burton, Section 25-12-2e, Caldwell Parish, shut down at 2,600 feet, is scheduled to resume drilling about January 15 following sale of a considerable interest in the well and acreage to an Oklahoma City operator, and meanwhile Tulsa interests are reported assembling a 9,000-acre block between this well and Columbia, to the north, on which they are said to be planning a 5,000-foot test "unless." The same people who are drilling the Burton well are reported arranging to drill on a big block near Parkdale, Miss.

R. L. Gay's semiwildcat in the Blue Lake area of Zwolle, No. 9 Bowman-Hicks, NE SW, Section 18-7-13, topped the Blossom at 2,697 feet, getting salt water in 20 feet of sand and abandoning the hole at 2,717 feet. Two semiwildcats southeast of Zwolle discovery area were producers: H. W. Perritt's No. 1 Bowman-Hicks, SW NE, Section 2-7-12, flowing 50 bbls. through tubing from 2,288 feet, and Towery Drilling Co.'s No. 1 Sabine Lumber Co., NW NW, Section 12-7-12, pumping 170 bbls. from 2,436 feet.

In Clay County, Arkansas, in the northeast corner of the State close to the Missouri line, S. C. Jeffus abandoned No. 2 Underwood, Section 4-20-8, junked at around 250 feet, and is arranging to go back to No. 1, located 50 feet south, and go deeper. This well also was abandoned at around 350 feet after it had made a puff of gas which gave rise to reports here that it had been completed as a small producer. Red Bank Oil Co.'s No. 1 Edtin, SW NE, Section 33-10-26, Franklin County, drilling to 3,793 feet after testing an estimated 8,000,000 feet of gas at 3,788 feet, was completed at the former depth making 8,500,000 feet of gas at 875 pounds. It is the second successful completion in this wildcat area several miles west of Clarksville gas in Johnson County and is about 2 miles southwest of the first success. B. F. Thompson abandoned location for No. 1 McGeHee, NE SW, Section 8-8-7, Lincoln County, and in Logan County, in the north central Arkansas gas area, Arkansas-Louisiana Pipe Line Co. abandoned No. 1 Jansen, NE NE, Section 35-8-24, as a dry hole at 2,406 feet.

Abandon East Texas Wildcats

Three East Texas wildcats were abandoned during the week. Phillips Petroleum Co., which was reported planning to go 6,000 feet in case of failure at previous contract depth of 4,000 feet on No. 1 Olds, in the J. A. Stephenson Survey of Cass County, abandoned the hole at 4,100 feet. Benedum & Trees' No. 1 Nona Mills, James Mason Survey of Sabine County, was dry at 4,843 feet and abandoned. It had a show of about 1,000,000 feet of gas at around 4,200 feet and another smaller one that bailed dry at 4,425 feet. G. R. Ridgeway and others' No. 1 Parker, Jesse McKelvey Survey of Shelby County, was abandoned because of salt water at 3,018 feet.

Pirtle & Flint, who took over Miss-Tex Oil Co.'s No. 1 Negro Fair Association, NW SE, Section 28-6-1e, Hinds County, Mississippi, completed it during the week, making 15,000,000 feet of gas from 2,507 feet. Top of the chalk was at 2,498 feet where 4½-inch was cemented. The well is one of three closely grouped wildcat producers between 2 and 3 miles northwest of nearest production in the Jackson district.

S. P. Borden has a fishing job on his hands on No. 1 Thomas, Section 27-16-9, Bienville Parish, Louisiana. Bailer was lost while making a test at 4,875 feet after drilling fluid had been bailed down 1,000 feet. After getting that out, drill stem parted while coming out after taking a core. Returns were reported slightly brackish at the depth where the test was made. Tests are expected during the next two or three weeks on the two Trinity tests drilling in the extreme northwest corner of Caddo Parish where R. W. Norton got a good gas well last summer at 5,506 feet. Texas-Louisiana Producing Co., Section 34-23-16, is in hard lime and shell at 5,446 feet and No. 1, Wall, Section 33-23-16, cemented 7-inch at 5,160 feet. The Texas Company's No. 75 Levee Board, Section 33-21-16, Oil City district, pumped 35 bbls. from 1,835 feet. Montague Oil Co.'s No. 11 Zenoria Lumber Co., Section 10-9-1e, Urania district of LaSalle Parish, pumped 15 bbls. from 1,513 feet. Lucky Strike Oil Co. is cementing bottom to cut off about 500 bbls. of water accompanying a show of light oil on drill stem test at 2,820-3,010 feet on No. 1 Chaffraix, NW SE, Section 33-12-10, Red River Parish.

Good Gas Well

Hope Production Co.'s completion of No. 2 H. L. Thomason, NW NW, Section 11-16-6, Richland Parish, making 23,148,000 feet of gas at 670 pounds from 2,406 feet, is illustrative of a recent tendency to complete Richland wells several feet above the usual 2,450 feet, particularly in areas adjacent to Richland's craters. Three other wells, however, were around the usual 2,450 feet. Southern Carbon Co.'s No. 1-B Hale, SW SW, Section 15-16-6, completed at 2,440 feet, made 40,788,000 feet at 440 pounds; State Line Oil & Gas Co.'s No. 1 Hewitt, SW SW, Section 32-16-6, made 14,444,332 feet at 750 pounds from 2,450 feet, and Southern Carbon Co.'s No. 2-B J. H. Hemler, NE NE, Section 14-16-6, made 44,496,000 feet at 570 pounds from 2,441 feet. Louisiana Gas & Fuel Co.'s No. 1 Glanton, NW SE, Section 23-17-6, a mile north and east of nearest production, was dry at 2,400 feet and is going deeper.

A. H. Tarver's No. 1 Baker, NW NE, Section 36-8-12, a semiwildcat 1½ miles east of discovery area production and half a mile south of the "north extension," going out of the chalk at 2,752 feet, topping the Blossom at 3,814 feet, is the deepest test in the Zwolle area proper. But there has not been a show yet. Magnolia Petroleum Co. started work on its No. 1 Lucious the last day of the year and with 13⅜-inch set at 204 feet for surface string is below 600 feet. A rank wildcat in the NW NE, Section 2-5-12, in the southwest corner of Sabine Parish and not many miles east of the Texas line, it is to be cored all the way to the bottom—and it is scheduled for a deep test. Pearce and others' No. 1 Pearce, a wildcat in Section 10-7-11, a quarter mile west of the farthest east well in the whole Zwolle area, is waiting orders with 150 feet of oil in the hole, total depth 2,600 feet, and apparently will confirm another "hickey," adding it to the group that comprises the Zwolle area.

United Production Corp., producing member of the Electric Bond & Share-Moody-Seagraves combination, the United Corp., has closed with Pioneer Cooperage Co. for the lease of all its acreage in Township 21-9e, the southern portion of Township 22-9 and the northern part of Township 20-9 in West Carroll Parish, north and west of the potential East-West Carroll Parish gas district which is already serving a few small communities in that part of the country. The tract comprises approximately 36,000 acres and another 5,000 acres secured from individual farm owners, the Pioneer retaining a relatively small amount of acreage advantageously checkerboarded. The United is to drill three 3,000-foot tests, the first to begin not later than April 15 and has already moved in a shooting crew to check the block.

J. D. Reynolds topped the Nacatoch at 1,505 feet and cored it for 6 feet but did not stop for a test on No. 1 Pace, Sec-

(Continued on Page 163)

LOUISIANA-ARKANSAS PROVEN AREAS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

BOSSIER PARISH—BELLEVUE

Company, farm and location—	Remarks—
H. I. Morgan et al's No. 10-B Kendricks, 1,720 ft. E, 1,130 ft. N, SW cor., Sec. 22-19-11	D.S. test 1,829 ft; S.W; drlg. 1,841 ft.

BOSSIER PARISH—CARTERVILLE

Del.-La. Dev. Co.'s No. 6 Bollinger, 330 ft. S, 220 ft. W, NW cor., Lot 17, in Lot 16, Sec. 31-23-11	Hole full oil; W.O.S.R; 15 ft. broken sand; T.D. 3,217 ft.
Palmer Corp.'s No. 2 Roberson, 330 ft. N, 330 ft. E, SW cor. NW NE, Sec. 26-23-12	Derrick.

BOSSIER PARISH—SLIGO

Palmer Corp.'s No. 1 Schnitt, 660 ft. S, 660 ft. E, C, Sec. 14-17-12	Drlg. 6⅝-in. plug; T.D. 1,950 ft.

CADDO PARISH—GREENWOOD

Calatex O. & G. Co.'s No. 1 Edgar, 1,460 ft. S, 1,900 ft. E, NW cor., Sec. 17-16-16	Location.
Calatex O. & G. Co.'s No. 1 McAnn-Alfred, 1,310 ft. S, 970 ft. E, NW cor., Sec. 17-16-16	Location.
Junior O. & G. Co.'s No. 1 Breard, 1,980 ft. W, 1,320 ft. N, SE cor., Sec. 9-18-16	Drlg. 2,210 ft.

CADDO PARISH—PINE ISLAND

Haynes Bros.' No. 2 Spell, 956 ft. W, 300 ft. N, SE cor. SE, Sec. 15-21-15	Drlg. lime 3,700 ft.
The Texas Co.'s No. 8 J. F. Herndon, 990 ft. N, 990 ft. W, SE cor. SW, Sec. 14-21-15	Cmtd. 6⅝-in. 3,818 ft; T.D. 3,900 ft.

CLAIBORNE PARISH—HOMER

La. Oil Ref. Corp.'s No. 1 Langston, 660 ft. S, 528 ft. E, NW cor. SW SW, Sec. 19-21-7	Drlg. 9-in. plug; T.D. 2,438 ft.

DE SOTO PARISH—HOLLY

Standard Oil Co.'s No. 1 Hoell, 264 ft. E, 170 ft. N, SW cor., Sec. 32-14-13	Drlg. shale and sand showing little gas 2,815 ft.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 330 ft. S, NE cor., Sec. 2-20-4	Location.

OUACHITA PARISH

Bahan & Bahan's No. 1 Fabolio, 660 ft. S, 660 ft. W, NE cor., Sec. 35-19-3	Cmtd. 5 3/16-in. 2,090 ft.
Bahan & Bahan's No. 1 Smith, 249 ft. W, 535 ft. N, SE cor. SW, Sec. 24-18-9	Derrick.

(Continued on Page 131)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

BIENVILLE PARISH

Company, farm and location—	Remarks—
Coyle Bros.' No. 1 Lawhon, 300 ft. N, 300 ft. E, SW cor. SE NE, Sec. 15-16-8	Drlg. shale 2,306 ft.
S. P. Borden's No. 1 Thomas, 330 ft. S, 330 ft. E, NW cor., Sec. 27-16-9	Fishing bailer and D.S; T.D. 4,875 ft.

BOSSIER PARISH

Andrews & Davlin's No. 1 Nattie, 100 ft. N, 250 ft. W, C, Sec. 15-22-14	S.D. fuel 1,576 ft.
Rombaugh et al's No. 1 Allison, SW SE, Sec. 10-19-13	Set 6⅝-in. 1,031 ft; dry; arranging to deepen; T.D. 1,100 ft.

CADDO PARISH

R. H. Libby's No. 1 Foster (was Gooch et al's), Sec. 29-15-16	Cmtd. 12½-in. 60 ft; S.D. 1,600 ft.
Tex.-La. Prod. Co.'s No. 1 French, 1,270 ft. N, 675 ft. E, SW cor. NW, Sec. 34-23-16	Drlg. hard lime and shell 5,446 ft.
Tex.-La. Prod. Co.'s No. 1 Wall, 2,175 ft. N, 1,980 ft. W, SE cor., Sec. 33-23-16	Cmtd. 7-in. 5,160 ft.

CALDWELL PARISH

Hudson et al's No. 1 Burton, Sec. 25-12-2e	S.D. 2,600 ft.

CATAHOULA PARISH

National Drlg. Co.'s No. 1 Marsh McMiller, 70 ft. N, 100 ft. W, C, Sec. 26-9-6	Tested S.W; W.O. 3,086 ft.

CLAIBORNE PARISH

Baird Bros. et al's No. 1 Whittaker, 600 ft. N, 400 ft. W, SE cor. NE, Sec. 30-20-7	S.D. 2,200 ft.
Baugh et al's No. 1 Alexander, 330 ft. S, 330 ft. W, NE cor., Sec. 27-20-8	S.D. 2,200 ft.
Prairie O. & G. Co.'s No. 1 Shackelford, 331 ft. S, 327 ft. E, NW cor. SE NE, Sec. 30-23-5	Drlg. hard lime 4,581 ft.

CONCORDIA PARISH

Joe Marr et al's No. 1 Maxwell, C, Sec. 35-3n-8e	S.D. 3,632 ft.

DE SOTO PARISH

J. W. Clark's No. 1 Tidwell, 250 ft. S, 250 ft. E, NW cor. NW, Sec. 22-13-14	Plugging back to 3,125 ft; wtr. shutoff failed; W.O; T.D. 3,130 ft.
S. A. Guy's No. 1 Dowling Bros., 469 ft. E, 382 ft. S, NW cor. NE, Sec. 31-14-14	S.D; sandy shale 1,354 ft.
Keatchie O. & G. Co.'s No. 1 Hallie Smith (was H. E. Welchert's), NE SE, Sec. 31-14-15	S.D; hard chalk 2,220 ft.

(Continued on Page 133)

YOU CAN STOP A TRAIN WITH A WAVE OF YOUR ARM

NEW DUPLEX CATCHER

Developed to meet safety requirements of tubing in deep wells. Multiple slips, actuated by a common means. Information on request. *Fully patented.*

» » » BUT A WAVE OF YOUR ARM

WHEN YOUR TUBING FALLS IS ONLY ONE OF DESPAIR

It's remarkable what you can do, sometimes, just because it's you. Remarkable, also, what you can't do - - - you or anybody else. Some things can be successfully interrupted - - - but when tubing falls, for instance, if there's no catcher to stop it, it's gone and that's all. And there's production lost, timed wasted, ruined tubing and plenty of money to pay.

The Guiberson Catcher will stop a string of falling tubing within three inches, neatly and positively. The strong spring operates without the aid of fluid in the hole. Heavy striker weight overcomes the retarding action of mud or paraffin. Dovetail tracks guide the slips instantly and accurately to the casing walls. If you want to *feel* sure of things, *make* sure of them first.

"Better Be Safe Than Sorry"
THE GUIBERSON CORP.
Box 1106, Dallas, Texas
California Branch: 1506 Santa Fe Ave., Los Angeles
621 Kennedy Bldg. Tulsa — 321 S. Osage Ave. Ponca City — 506 Trust Bldg Newark, O.

Use a GUIBERSON CATCHER

GUIBERSON

BETTER BE SAFE THAN SORRY

Clay Creek Wildcats Are Being Watched

Subsalt Drilling at Allen Dome on Overhang Theory Productive at Barbers Hill. Expansion of Deep Area at Refugio

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Jan. 12.—With the exception of farther expansion of deep producing horizons at Barbers Hill and Refugio, completions on the Gulf Coast were of comparatively little importance the past week. However, showings in two wildcats in the Clay Creek district were being watched for possible further developments, and geologically the drilling through cap rock and salt in two additional tests at Allen Dome was regarded with much interest in view of the bearing it has on the overhang theory of salt dome formation.

Considering the latter, interest lies in the fact that the two tests which drilled through cap rock and salt at Allen are on opposite edges of the dome, indicating that a protruding ledge, as at the Barbers Hill Dome, extends entirely around the dome. Development of prolific production on all sides of Barbers Hill underlying the ledge there has been one of the chief developments in the Gulf Coast the past year and when, several months ago, Mills Bennett Production Co. drilled through cap rock into formation at Allen Dome and brought in a good well there arose a new theory that all domes possibly were similarly formed.

Allen Dome Tests

While at Barbers Hill prolific production had been definitely proved underlying a ledge entirely around that dome, which might have been a condition peculiar to that dome, only the one well at Allen had drilled through dome material and back into formation. The two tests, which have just drilled through the cap rock and salt at Allen, were located with a view to proving the existence of the ledge circling the dome and to bear out the theory of some operators that not only Barbers Hill but also Allen as well as possibly all other domes were formed similarly.

The latest two tests to drill through cap rock and salt at Allen Dome are Mills Bennett Production Co.'s No. 2 Reese and No. 2 Random. The latter is on the southeast side of the dome in the same general vicinity of Mills Bennett's No. 1 Poole, the first well to drill through cap rock into formation again at Allen, but No. 2 Reese is on the northwest, or opposite, side of the dome where virtually no drilling has ever been done by any operator. The latter test topped cap rock at 1,200 feet and went out of it at 2,685 feet and at latest report was drilling in sandy shale below 2,700 feet.

No. 2 Random on the southeast side has presented a rather peculiar geological condition in that several alternating fingers of cap rock and salt were passed through. It is the first test at Allen to drill through salt, the other two having drilled through only cap rock ledges into formation. The following log record was made of this test: Cap rock 1,190-1,630 feet; salt 1,630-1,792 feet; cap rock 1,792-99 feet; salt 1,799-1,814 feet; cap rock 1,822 feet; and since then, formation. This is the first instance of such a condition, so far as known, but irregularities are common in salt dome operation.

Allen Dome is being developed in its entirety by Mills Bennett Production Co., which acquired it from Shell Petroleum Corp. The same company has been one of the chief operators at Barbers Hill and was largely instrumental in proving the circling overhang and subsalt production there and has been following out the same program of development at Allen.

Barbers Hill

At Barbers Hill, two good wells were brought in during the week, one in the comparatively recently opened west flank pool and underlying a ledge of cap rock and the other on the southeast side, which has proved an unusually prolific spot. On the west flank, Humphreys Corp.'s No. 1 Winfree, north offset to the discovery well (Sun Oil Co.'s No. 1 Winfree) there in a sand at a total depth of 5,512 feet came in flowing an estimated 1,000 bbls. of pipe line oil daily on a half-inch choke. A total of 179 feet of screen was set in the sand. The oil is 31.3 gravity and pressure is 365 pounds. Like in the discovery well there, this sand flanks close up to the dome underlying an overhang of cap rock. This is the fourth producer in this particular pool. That this area is to be definitely linked with the production on the southwest flank, some 3,000 feet to the southeast around the dome, was indicated late in the week by The Texas Company's No. 1 Winfree, about midway between the two areas, which was drilling plug to test a sand showing at 5,393 feet.

On the southeast side of Barbers Hill, McAlbert Oil Co.'s No. 2-A Higgins set six joints of screen at 5,115 feet and came in flowing 1,200 bbls. daily on a half-inch choke. This oil is 28.8 gravity and pressure is 390 pounds.

Refugio Operations

The 6,400-foot horizon at Refugio, in the lower coastal country, was further proved up during the week with the addition of five new wells. With one exception, all were former wells or tests in the 5,400-5,500-foot sand which have been deepened in the active development of the newer 6,400-foot pay. One of these wells, Moody-Seagraves and Phillips Petroleum Co.'s No. 1-C Heard extended the 6,400-foot area several hundred feet to the southwest. In a sand at 6,432-43 feet it set 18 feet of screen and flowed 308 bbls. in the first 21 hours on two quarter-inch chokes. Like in the majority of other wells in this horizon the oil is high gravity being termed as "gasoline." This particular well was drilled first by Independent Oil & Gas Co. (now Phillips) to a depth of 5,720 feet where it was abandoned as dry. The spread of 6,400-foot drilling activity caused the new operators to go back into the hole to deepen it.

Other Refugio completions were United Production Co.'s No. 3 Mitchell, a former gasser in the 5,500-foot sand, deepened to 6,458 feet, flowing 1,000 bbls. fluid, 50 per cent oil, on a three-eighths-inch choke; Houston Oil Co.'s No. 1 Tom Heard, Block 16, deepened to 6,462 feet, flowing 250 bbls. on one-eighth and one-quarter-inch chokes; the same company's No. 2-A Fannie Heard, Block 62, flowing 600 bbls. on one-eighth and three-sixteenths-inch chokes, 6,459 feet; The Texas Company's No. 2 Ben Shelton, 120 bbls. on one-quarter and three-sixteenths-inch chokes, 6,612 feet, and Houston Oil Co.'s No. 1 Carlysle, Block 33, pumping 100 bbls., 3,717 feet. The Texas Company's well was reported the previous week as a gasser but since has started spraying oil. It is on the northeast end of the field, the other completions all being on the south.

Clay Creek Field

Some interest has been attached to showings encountered in a wildcat in Washington County, located south of the Clay Creek (Gay Hill) Field of Sun Oil Co. and north of the town of Brenham. This test, Oliver Drilling Co.'s No. 1-A A. Hahn, 500 feet from the north line and 1,852 feet from the west line of the J. H. Alcorn Survey, tried to blow out while drilling in a sandy shale showing gas at 1,260 feet. Casing will be set to test. Another wildcat in the same general district but in Burleson County north of the Clay Creek area has given some indication of new production. This test, Mid-South Oil Co.'s No. 1 Duckworth is in a sandy shale showing oil and gas at a total depth of 2,150 feet and has set 6⅝-inch casing at 2,420 feet to test.

In the Clay Creek Field itself, Sun Oil Co.'s No. 1 Grimm was completed as a good producer flowing 880 bbls., 55 per cent oil, from a sandy shale at 1,260 feet. At this depth 101 feet of 4¾-inch screen was set.

At East Hackberry, Calcasieu Oil Co. has deepened its No. 21 Watkins to 4,096 feet and with one joint of 3-inch screen in the hole has completed it flowing 1,400 bbls., 75 per cent water, on a three-quarters-inch choke. Early in the week Gulf Production Co. made another extension of its field at Orchard (Moore's Field) in its No. 27 Moore, which, with one joint of 4½-inch screen at 3,540 feet flowed at the rate of 650 bbls. of 27.2 gravity oil daily. This well is on the south side.

Rio Bravo Oil Co.'s No. 14-A Settegast, west side of Pierce Junction, which was temporarily abandoned following a blowout and fire last summer, was gone into the past week and deepened from 5,067 feet to 5,091 feet, where it was completed flowing 480 bbls. Thirty-two feet of 4½-inch screen were set. The oil is 39.2 gravity.

Other Completions

Other completions included: Marrs McLean's No. 19 Cade, High Island, 520 bbls., 4,004 feet; Empire Gas & Fuel Co.'s No. 22 Barngrover, Hull, 150 bbls., 3,998 feet; Yount Lee Oil Co.'s No. 117 McFaddin, Spindletop, 810 bbls., 5,124 feet; the same company's No. 68 McFaddin, Spindletop, 115 bbls., 4,285 feet; Rex Petroleum Co.'s No. 13 Hunter, Edgerly, pumping 60 bbls., 4,043 feet; Gulf Refining Co.'s No. 4 Gardner, Vinton, 110 bbls., 10 per cent water, 3,598 feet; Vacuum Oil Co.'s No. 30 Miller, Lockport, 900 bbls., 4,380 feet; and Rio Bravo Oil Co.'s No. 104-A Cotton, 10 bbls., 580 feet.

Abandonments included Union Sulphur Co.'s No. 1 Martha Moss, in the west extension district of the Lockport Field, which tested salt water at 6,611 feet. This test first was drilled to 7,119 feet but was plugged back to its present depth. Harrison Oil Co. abandoned its No. 1 Jones, North Dayton, at 4,313 feet. Total depth of the original hole was 4,635 feet.

Daily Average Production

Daily average production of coastal fields reflected another drop the past week in the steady decline which has been recorded for some time. Figures for the week ended January 10 were:

SOUTHEAST TEXAS

Allen	161
Barbers Hill	19,583
Batson	1,103
Big Creek	2,920
Blue Ridge	1,504
Brenham	141
Boling	978
Clay Creek	1,231
Damon Mound	646
DeWalt	11,984
Esperson (Sheeks)	3,067
Fannett	514
Goose Creek	4,572
Hankamer	2,475
High Island	651
Hull	7,228
Humble	11,237
Lost Lake	540
Markham	208
Moss Bluff	107
Mykawa	223
Nash	240
North Dayton	1,265
Orange	2,224
Orchard	1,984
Pierce Junction	9,717
Port Neches	1,710
Raccoon Bend	8,579
Refugio	28,886
Rockland (Jasper)	15
Saratoga	1,217
Sour Lake	2,058
South Liberty	2,736
Spindletop	13,375
West Columbia	4,640
Total Southeast Texas	149,720
Week ending January 3	152,645
Decrease	2,925

SOUTH LOUISIANA

Anse La Butte	70
Bayou Blue	35
Bayou Bouillon	114
Black Bayou	1,043
Edgerly	388
Jennings	963
Hackberry	5,038
Lake Barre	1,699
Lake Pelto	159
Lockport	4,445
Port Barre	1,860
Sorrento	30
Starks	664
Sulphur	2,619
Sweet Lake	1,149
Vinton	5,845
Welsh	110
White Castle	1,005
Total South Louisiana	27,246
Week ending January 3	25,930
Increase	1,316
Total Gulf Coast	176,966
Week ending January 3	178,575
Decrease	1,609

GULF COAST FIELDS AND WILDCATS

Week Ended January 10
All Rotary

BARBERS HILL—CHAMBERS COUNTY

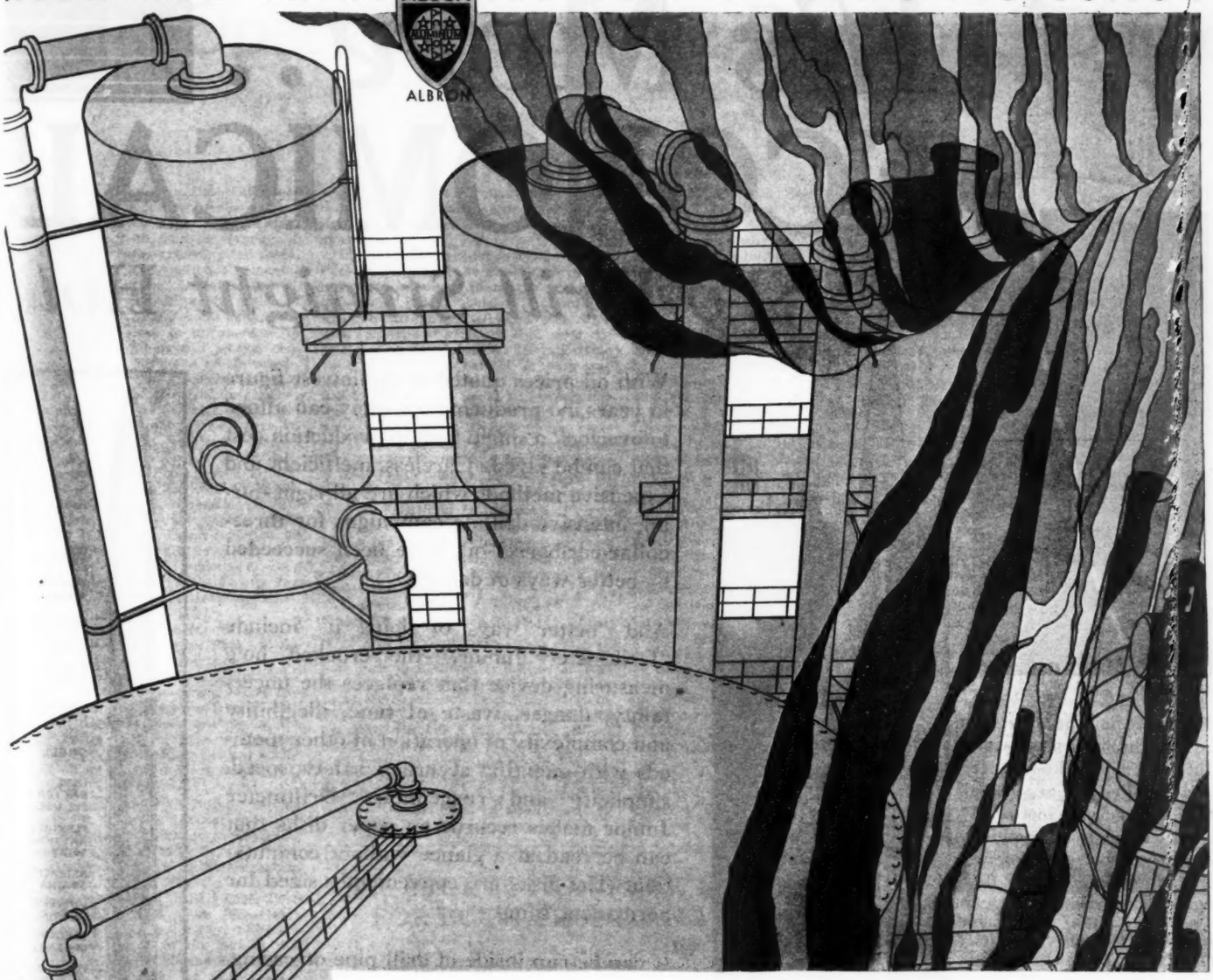
Mills Bennett Prod. Co.'s No. 1-B Barber, north	Drlg. 3,957 ft.
Mills Bennett Prod. Co.'s No. 3 Gulf Fisher, south	Drlg. sandy lime rock 4,300 ft.
Mills Bennett Prod. Co.'s No. 5 Higgins, southeast	Location.
Mills Bennett Prod. Co.'s No. 1 Gulf-Smith	Drlg. shale and lime 3,743 ft.
Mills Bennett Prod. Co.'s No. 4 McKinney (workover)	No report.
Humphreys Corp.'s No. 2-B Barber, north	Drlg. salt 1,679 ft.
Humphreys Corp.'s No. 1 Louise Fitzgerald, north	Drlg. salt 5,192 ft.
Humphreys Corp.'s No. 2 Wilburn, southeast	Location.
Humphreys Corp.'s No. 10-A Kirby (workover)	Drlg. shale and lime 4,864 ft.
Humphreys Corp.'s No. 1 Winfree, west	Set screen 5,508 ft.; comp. flowing 1,000 bbls. pipe line oil.
McAlbert Oil Co.'s No. 2-A Higgins, southeast	Set 6 joints screen 5,115 ft.; comp. flowing 1,200 bbls. pipe line oil.
Republic Prod. Co.'s No. 1 Kirby (workover)	Sidetracking 5,187 ft.
Sun Oil Co.'s No. 7 Chambers, south	Oil sand 4,583 ft.; will set screen.
Sun Oil Co.'s No. 1 Smith, west	Drlg. rock 3,243 ft.
Sun Oil Co.'s No. 13 Wilburn fee, east	Waiting on orders.
The Texas Company's No. 1 Williams, southwest	Total depth 6,724 ft.; pulled liner and screen.
The Texas Company's No. 1 Winfree, west	Drlg. plug 5,393 ft.
Yount Lee Oil Co.'s No. 10 Woodward, southeast	Location.
Yount Lee Oil Co.'s No. 1 Hindman, southwest	Drlg. shale 5,809 ft.
Yount Lee Oil Co.'s No. 17 Chambers, south	Coring sand and shale 4,100 ft.
Yount Lee Oil Co.'s No. 6 Phillips, east	Waiting on orders.
Yount Lee Oil Co.'s No. 1 Winfree, west	Drlg. shale 5,268 ft.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 4 Diemar	Location.
Humble & Valley's No. 9 Mueller	Derrick.
Humble & Valley's No. 7 Payne	Derrick.
Humble & Valley's No. 8 Payne	Derrick.
Humble & Valley's No. 6 Saunders	Drlg. sand 3,469 ft.
Humble & Valley's No. 3 Sherrod	Rigging up.
Humble & Valley's No. 4 Sherrod	Drlg. sand 670 ft.

(Continued on Page 155)

ALUMINUM PAINT THE COAT OF METAL PROTECTION



Rolls back the curtain of acid fumes!

Hydrogen sulphide gas and other fumes, soon break down the film of ordinary paint—lay metal surfaces open to rust—entail constant repainting.

Not so—when aluminum paint is on the job! For, its bright, metallic film rolls back these destructive forces just as easily as it sheds moisture. That means out-and-out economy; lowered upkeep; longer protection. Furthermore, the high reflectivity of this "coat of metal protection" minimizes the evaporation of tank contents.

To what is this extra paint protection due? A microscopic examination of the aluminum film reveals the difference . . . for, here is a film built up of countless tiny flakes of pure aluminum which overlap or "leaf" compactly, forming an almost impervious barrier to moisture and fumes.

Aluminum Company of America does not sell paint. But aluminum paint made with satisfactory vehicles and Alcoa Albron Powder may be purchased from most reputable paint manufacturers, jobbers and dealers. Be sure the pigment portion is Alcoa Albron, and is so designated. Let us send you the booklet, "Aluminum Paint, the Coat of Metal Protection." Address: ALUMINUM COMPANY *of* AMERICA; 2417 Oliver Building, PITTSBURGH, PA.

ALCOA ALBRON
POWDER FOR
ALUMINUM PAINT

It's More.. ECONOMICAL

To Drill Straight Hole

The well above at left started straight but drifted without the driller's knowledge and resulted in expensive fishing jobs, and increased drilling time, to say nothing of the greater expense incurred in pumping after the well was completed.

For a few cents per reading, Driftmeter Junior furnishes accurate knowledge of angular deflection during the drilling period.

With so many contributing causes to crooked hole drilling, it has become an accepted practice to keep a constant check on the vertical alignment of the hole.

The coupon below will bring interesting and informative literature about the Driftmeter Junior.

For those whose limited operations do not justify the purchase of Driftmeter Junior, we have recently established a well surveying service in the Oklahoma City district which is available day or night at a very reasonable rate. Call or write Oklahoma City representative.

MAIL COUPON FOR LITERATURE

DRIFTMETER, Inc.
616 Exchange Bank Bldg.,
Tulsa, Oklahoma

Please send literature about Driftmeter Junior to

Name..... Company.....

Address.....

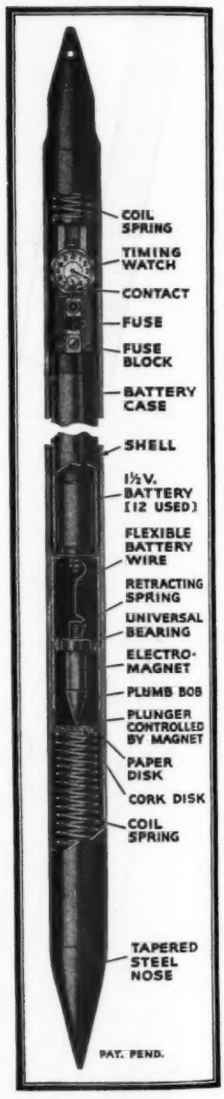
OKLAHOMA CITY, OKLA.
Representative
W. E. Parkening
Office: 1215 S. E. 29th St.
Phones: Day, 7-8421; Night, 5-3161

HOUSTON, TEXAS
The Thrift Corp.
M & M Bldg.

With oil prices quoted at the lowest figure in years, no producing company can afford to overlook a single item in production cost that can be saved. Careless, inefficient and expensive methods which are all right during intensive drilling campaigns for three-dollar-per-barrel oil, have been succeeded by better ways of doing it.

And "better ways of doing it" include "Driftmeter Junior," the crooked hole measuring device that replaces the uncertainty, danger, waste of time, illegibility and complexity of operation of other methods with scientific accuracy, safety, speed, simplicity and ruggedness. Driftmeter Junior makes records on paper disks that can be read at a glance without computation. The disks are conveniently sized for permanent filing.

It can be run inside of drill pipe or casing, on the sand or measuring line without danger of injuring delicate mechanism. The low cost of the Driftmeter Junior makes it possible for every drilling well to have this better measuring service.



PRICES AND ACCESSORIES

Driftmeter Junior, complete with batteries and 50 paper disks and 50 fuses	$200.00
100 disks } 100 fuses }	5.00
Replacement batteries, refill of 12	1.00

All prices are quoted f.o.b. Tulsa

DRIFTMETER
Patent Pending
Incorporated

616 EXCHANGE BANK BLDG.
TULSA, OKLAHOMA

New Operations on the Berthoud Dome

Florence Pool Has 40-Bbl. Well. Hobbs Proration Revised to 31,200 Bbls. Greasewood Well Still Delayed

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Jan. 12.—Operators in the Hobbs Pool in New Mexico reached an agreement with state officials on January 5 for extending the proration period six months from January 10 with an allowable outlet of 31,200 bbls. daily, subject to an increase in 90 days if market conditions are favorable. The potential capacity of the field on January 1 was placed at 1,081,578 bbls. daily from 134 wells on 120 units. There were no completions or new locations reported. The Shell Petroleum Corp.'s No. 1 Coleman, in the Eunice Pool, gauged 47,000,000 feet of gas at 3,555 feet. Producers in the Jackson Pool were notified on January 1 that the pipe line company would take 175 bbls. daily on proration at 50 cents a barrel. The wells have been shut in for four months. Lockhart & Co.'s Pearce Canon test in Eddy County ran into sulphur water and is being abandoned.

Colorado reported the completion of a 40-bbl. well in the Florence Pool and the starting of three new operations on the Berthoud Dome in Larimer County. Operations at the Greasewood Dome discovery well are at a standstill until after the annual stockholders meeting of the Platte Valley Petroleum Co. on January 19. The Texas Production Co. has a hole full of oil in its No. 4 Wick on the Moffat Dome.

The Government is offering for sale on January 16 leases on 2,400 acres on the Little Buffalo Basin Dome in Wyoming under terms that provide for unit operation of the gas sands in the Frontier. Wyoming Associated Oil Co. completed a Sundance sand well in Salt Creek flowing 1,433 bbls. in 24 hours. The Geary Dome test is nearing its first objective. The price of crude in the Lander district was reduced to 70 and 75 cents on January 1.

The Continental Oil Co. has purchased the Lewistown Oil & Refining Co.'s refinery in Montana. One completion, a 15-bbl. pumper, was reported in the Pondera Pool and a 9,000,000-foot gas well was completed in Liberty County.

NEW MEXICO

Hobbs Pool—Lea County

The agreement between 23 operators in the Hobbs Pool and the State of New Mexico for the proration of production in that field which expires on January 10 was extended for another six-months period at a meeting in Santa Fe on January 5. James F. Hinkle, who took office the first of the year as state land commissioner, signed the agreement following the presentation of the request of the operators for a renewal and a discussion of the conditions making it desirable. The allowable outlet of the field was placed at 31,200 bbls. daily, but the agreement provides that a change may be made in this figure at the end of 90 days if market conditions warrant it. The original agreement which became effective last July provided for a daily outlet of 35,000 bbls., but it was soon found that the pipe line companies could not find a market for that quantity and in subsequent months the quantity was reduced to 31,000 bbls. The meeting at Santa Fe brought out extensive discussion of the question of a tariff on oil imports when M. H. Bridges, who represented the Hobbs Chamber of Commerce, made his argument for a larger outlet for the field. An effort was made to raise the production to 50,000 bbls. a day, but with no market in sight for that quantity of crude, the discussion ended with the figure fixed at 31,200 bbls. for the last three months.

The potential production of the Hobbs Pool on January 1, as established by the executive committee in charge of proration, was 1,081,578 bbls. daily from 134 wells on 120 units of 40 acres each. This was an increase of 3,249 bbls. over the potential on December 16. The allowable outlet for the first half of January was placed at 31,475 bbls. daily. The potential for the field is based on the average unit potential. On some of the 40-acre units there are two wells and the average is taken to establish a unit potential. The total figure would be somewhat larger if the potential of the field was based on the wells instead of the units.

Drilling Operations

There were no completions reported in Hobbs for the week, the first time since last spring. Also, there were no new locations. Routine drilling operations included the following:

Amerada Petroleum Corp.'s No. 1-C State, NE cor., Section 36-18-37, is drilling at 2,350 feet in salt.

Cecil Bordages' No. 1 Hughes, C S half, Section 27-19-38, is drilling on iron at 2,873 feet. Total depth is 4,012 feet. Landreth Production Co.'s No. 1-C State, NE cor. NW, Section 6-19-38, joint with the Maljamar Oil & Gas Co., is drilling at 4,171 feet in lime.

Midwest Refining Co.'s No. 29 Turner, C SW SW, Section 34-18-38, which is expected to prove up an extension of the pool on the southeastern side, is drilling at 3,888 feet in lime, and its No. 11 State, C NE NW, Section 9-19-38, is drilling at 3,885 feet in lime. Last named had 1 bailer of water per hour at 3,815 feet. Same company's No. 8 Terry, C NW NW, Section 9-19-38, is drilling at 1,595 feet. It topped anhydrite at 1,570 feet. Midwest's No. 11 State, C NE SW, Section 5-19-38, is drilling at 2,400 feet in salt. It topped anhydrite at 1,525 feet and salt at 1,665 feet. Midwest's No. 11 Thorpe, C NE NW, Section 10-19-38, is bottomed at 4,190 feet in lime and is running 2½-inch tubing. It topped dolomite at 4,060 feet.

National Securities Oil Co.'s No. 1 Linam, NE SE SW, Section 33-18-37, is drilling by tools 20 feet off bottom. Total depth is 3,860 feet. It had 4,000,000 feet of gas at this depth with two bits in the hole.

Tidal Oil Co.'s No. 5 Grimes, NW SE NE, Section 29-18-38, is drilling at 3,995 feet in lime and anhydrite.

Eunice Area—Lea County

Shell Petroleum Corp.'s No. 1 Coleman, NW cor. SE, Section 17-21-36, an offset on the south to Tidal Oil Co.'s No. 1 Coleman, a producer, is drilling at 3,700 feet. It gauged 23,000,000 feet of gas at 3,244 feet, and 47,000,000 feet at 3,553-55 feet. Continental Oil Co.'s No. 2 A. E. Meyers, SE cor. NW, Section 17-21-36, an offset on the west to Tidal's No. 1 Coleman, is running 7-inch casing at 3,841 feet. Just above this depth it had been coring in lime. Atlantic Oil Producing Co.'s No. 1 Coleman, SW NE NW, Section 17-21-36, one-third of a mile northwest of the group of offsets in the center of the section, is bottomed at 3,067 feet in anhydrite and lime and is shut down for water. Continental Oil Co.'s No. 1-A Lockhart, NE cor., Section 18-21-36, one-third of a mile northwest of the Atlantic well, is drilling at 3,410 feet in lime after killing a flow of 5,000,000 feet of gas. Continental's No. 1 William Meyers, SW cor. NW, Section 28-22-36, is bottomed at 3,772 feet and is preparing to rip casing. This well was plugged back from 4,034 feet to complete as a gas well.

Caprock Area—Lea County

Western Drilling & Engineering Co.'s No. 1 Bridges, SE cor. NW, Section 17-17-34, joint with The Texas Company, is running pipe at 4,409 feet.

Loving Area—Lea County

Galt, Brown and others' No. 1 State, SW NW NW, Section 9-15-35, is drilling at 5,036 feet in gray lime after making a new contract to drill 600 feet deeper from 5,001 feet.

Eddy County

The group of producers in the Jackson Pool, northeastern Eddy County, which had been shut in since August 31, was afforded some relief on January 1 when the Continental Oil Co. agreed to take 175 bbls. a day at 50 cents a barrel. This is a cut in the price of crude which extends also to the Artesia Pool. The Grayburg Oil Co., the Prairie Oil & Gas Co., Henderson, Dexter & Blair, Lockhart & Co., the Pueblo Oil Co. and the Danciger Oil & Refining Co. have wells. It was optional with the companies as to whether they would run oil, and the allowable outlet was to be prorated among those remaining if any should decide to keep their wells shut in.

Lockhart & Co.'s No. 1 Livingston, C SW SW, Section 23-24-28, Pearce Canon district, ran into a flow of sulphur water and the hole is being abandoned at 3,325 feet. It topped the Delaware sand at 3,000 feet. The elevation is 2,915 feet. Flynn, Welch & Yates' No. 59 State, NW cor. (cor.), Section 5-19-28, landed 10-inch at 280 feet and is drilling a water well.

Chaves County

Warman Oil Trust's No. 1 Seibert, NE, Section 27-13-24, is shut down for orders at 2,032 feet. It had 1,400 feet of salt water at 1,311-19 feet.

McKinley County

Miss S. Dysart, of Los Angeles, Calif., has returned to the Ambrosia Lake district to resume work on her two operations. Five car loads of material, including drilling equipment and building material for a 9-room house, has been shipped. Her No. 1 Bouton, NW NE, Section 14-14n-10, was reported last March to be on top of a sand at 763 feet and shut down until 10-inch was run, and her No. 1, SW cor., Section 21-14-9w, was reported at the same time to be on top of a sand at 1,699 feet and waiting to case off water from above and test a show of oil.

San Juan County

Continental Oil Co.'s No. 24, SW cor. NW, Section 1-29-19, Rattlesnake, is shut down at 4,336 feet waiting for rock bit cones.

COLORADO

Weld County

Operations at the Platte Valley Petroleum Co.'s No. 1 Patterson, NE SE NW, Section 24-6n-61, on the Greasewood Dome in Weld County, which came in on October 10 flowing by heads, are at a standstill and it is considered very doubtful if the hole will be drilled any deeper until after the annual stockholders' meeting is held on January 19. This well has resulted in the most extensive leasing campaign which the State has experienced

(Continued on Page 139)

NEW PRODUCTION PEAK IN CANADA FOR BOTH CRUDE AND NATURAL GAS

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Jan. 10.—Government estimates of oil production in western Canada show a total of 1,404,700 bbls. for 1930, an increase of approximately 40 per cent over the previous year. Production from Ontario and New Brunswick will, it is expected, increase the total for the entire Dominion to over 1,500,000 bbls., establishing a new record for Canada. The 1930 production is valued at $5,120,000 and represents a 34 per cent increase in quantity of 37 per cent increase in value over 1929, when the total production for all Canada amounted to 1,117,368 bbls., valued at $3,731,764. It is expected Ontario production will reach 113,000 bbls. and New Brunswick around 7,000 bbls.

Natural gas production for 1930 is estimated at 29,565,000,000 feet valued at $10,561,000, also establishing a new high record. Alberta wells accounted for approximately 69 per cent. Gas produced and consumed in Alberta is estimated at 19,830,122,000 feet; this not including the waste gas production from the Turner Valley Field.

Official figures compiled by the provincial lands and mines department at Edmonton show, for November, a naphtha and crude oil production from Alberta wells amounting to 157,300 bbls. Of this 150,352 bbls. is credited to the Turner Valley, made up of 140,128 bbls. of naphtha, 9,630 bbls. of light crude and 594 bbls. of heavy crude. These figures are considerably in excess of deliveries to the refineries, the pipe line runs for November aggregating 132,287 bbls. The difference is accounted for by sales in the field. For November, production from the Red Coulee fields amounted to 6,357 bbls. and for Wainwright 594 bbls.

Production of Border Fields

Official figures show that the Alberta end of the international Red Coulee Field was a good producer, delivering 47,576 bbls. in the 11-month period ending November 30. By months the Red Coulee production was as follows: January 1,790 bbls.; February, 1,180 bbls.; March, 3,006 bbls.; April, 2,775 bbls.; May, 2,852 bbls.; June, 3,282 bbls.; July, 6,226 bbls.; August, 6,423 bbls.; September, 7,072 bbls.; October, 6,615 bbls., November, 6,357 bbls. In addition, a natural gas production of 44,420,000 feet was marketed from the Red Coulee Field.

The Skiff Field, with intermittent production which was used largely for drilling fuel, delivered 3,731 bbls. of heavy crude, detail figures being: May, 835 bbls.; June, 1,199 bbls.; July, 1,078 bbls.; August, 619 bbls.

Turner Valley Completions

A preliminary survey of operations in the Turner Valley in 1930 shows a total of 37 wells drilled to completion. With this average of three wells per month, the past year was the most successful in the history of the field, surpassing even the boom year of 1929. The new producers in 1930 range from small wells of hardly commercial capacity to Mercury's No. 1, which made better than 700 bbls. a day.

(Continued on Page 162)

Tests Starting in Kerr and Real Counties

New Drilling Planned in Gas Field in Northeastern Jim Wells County. Promising Wildcat in Laredo District

By B. D. Stevenson
Staff Correspondent Southwest Texas Fields

SAN ANTONIO, Tex., Jan. 12.—There are a dozen or more places over Southwest Texas where last year a producer was brought in in wildcat territory opening up a pool but where there has been little or no attempt since to develop a field. Some of these are making plans now to do some additional drilling, one of the most important being the new gas field in northeastern Jim Wells County discovered by J. E. Walsh with his No. 1 Wade at 2,916 feet good for around 75,000,000 feet of gas and with some possibilities that oil production will be developed also. Locations for new tests in the block and plans for additional drilling will be perfected within two or three months. Any of this dozen or more new gas and oil producing spots found during 1930 may develop into an important pool during 1931. Based on the law of averages and experience in Southwest Texas in years past it is nearly certain that at least three or four of them will develop into important propositions.

T. B. Slick's No. 1 Poetter on the DeWitt-Goliad County line and 20 miles northeast of Pettus is still shut in while deals are being worked out for pipe line connection and a market outlet. It looks like one of the most likely spots for the development of a big pool in 1931.

Kerr and Real Counties

In Kerr County and adjacent areas of Real County the interest is shifting from the Evans & Gant's No. 1 Jeff Love to the other tests that have started up. No. 1 Jeff Love is still on the pump and making some oil, though the volume has decreased somewhat. Latest reports were it was pumping about 50 bbls. of oil and 200 bbls. of water. With the chance open that lower formations in the Pennsylvanian will pay off better there is a possibility that the operators will be induced to drill deeper. Some old operators from the fields in the State of Pennsylvania are calling the first sand where this well got a show of oil at 2,552 feet the Big Injun sand and the sand at present depth 3,391 feet the Little Berea and they claim that the Big Berea should be found with deeper drilling and with it bigger production. It will be remembered that this test made quite a little oil at 2,552 feet.

Three miles northeast of No. 1 Love, Evans & Gant are moving in material for their No. 1 Seiker & Mears and it should be spudded in within about 10 days.

Five miles northwest of No. 1 Love, Evans & Sprinkle have spudded in their No. 1 Auld and made something over 125 bbls.

About 7 miles southeast of No. 1 Love, McGinley Corp. has set 350 feet of 15½-inch surface casing in No. 1 Haby. Both No. 1 Auld and No. 1 Haby are in Real County and the trend of structures in that area is supposed to be northwest and southeast. Hence these two wells will be the ones most closely watched from this on.

Corpus Christi Area

In the area around Corpus Christi the most important disappointment was the failure of the Saxet Oil Co. to find a deeper sand in its No. 17 Rachel. The test is in the center of the White Point gas field north of Nueces Bay where gas production is had and supplies the United Gas Co. pipe line from sand at around 2,300 feet. No. 17 Rachel picked up gas and quite a little high gravity oil at 4,903 feet and the well was put on production there but finally deepened to 6,000 feet without any increase. It is now plugging back to 4,903 feet and will complete again.

On the south side of Nueces Bay in the Saxet area there have been a number of deep tests since the Saxet drilled No. 4 Dunn to around 4,000 feet but none of them has made big production. Houston Oil Co.'s No. 1 Joe Hunter at 4,079 feet is standing 215 feet in 24 gravity oil. It is on the west edge of the area. Moody-Seagraves' No. 1 F. J. Smith in the center of the field at 4,074 feet was completed as a gas well but an effort will be made to drill it deeper.

In the Agua Dulce Field in the western part of the county where gas production is had at 2,000 feet, Houston Oil Co. recently completed No. 1 Comstock a mile east of the gas production at 4,913 feet. Now the company is rigging up to drill No. 1 Ollie Purl in the same area and is laying gas line from the field to its refinery at Corpus Christi.

In the wildcat operations in the county Grimm and Yakey's No. 1 Bauer, a mile north of Robstown has been hitting sands that showed a little oil and the last report is they have a sand at 2,770 feet. They expect to test it out.

Cartwright Gas Field

Houston Oil Co. has made two locations in the Cartwright gas field in Live Oak County, both on the Brown Land & Cattle Co. tract. The two deep tests are not progressing so well. No. 22 Cartwright has drill stem stuck at 6,023 feet and the No. 1-A Boothe after drilling to 5,378 feet is plugging back to 5,263 feet and will make another effort to bring in a well. It is a half mile north of the field.

Laredo District

In the Laredo district the most likely wildcat recently was the Cole Petroleum Co.'s No. 1 Wilbur Allen. It had a showing of oil at 3,170-86 feet but developed fresh water and is drilling deeper.

Al Buchanan's No. 1 Wood-Welder in the northern part of Duval County which tried to make a well at 1,529 feet failed and is drilling deeper.

Vacuum Oil Co.'s No. 1 Duval County Ranch Co. tested nothing but mud at 1,803-26 feet and is now drilling at 2,350 feet. This test is about 4 miles southwest of the discovery well in the S. R. C. Pool in which Vacuum owns an interest and where production was found at 1,722 feet. At 2,350 feet it seems to have passed the chance of getting production in a sand corresponding to that producing in the discovery well in Survey 293 in the S. R. C. Pool.

There is a chance that the Magnolia will bring in an oil well in its No. 1 Wilson in the northeast corner of Survey No. 136, two or three locations northwest of Frasher & Schoolfield's No. 1 Duval Land Co. which extended the Schoolfield-O'Byrne Pool, 1½ miles south. Magnolia has set casing at 2,244 feet and has sand down to 2,250 feet in its No. 1 Wilson which is about the right depth. It is waiting on cement. It is the first to reach the sand since the extension well was brought in.

Around Pettus the most important proposition probably is the announcement a wildcat will be drilled soon near the T. B. Slick test. Nearer the Pettus Field the Union Producing Co.'s No. 13 Ray, 3 miles northeast of oil production has been connected with pipe line and has been put on proration and is flowing at the rate of about 175 bbls. a day.

Only two other tests in that part of the country are attracting attention or making any headway. Simms Oil Co.'s No. 2 Holzmark has set casing at 3,778 feet with total depth 4,458 feet. This is the first test they have drilled since they brought in No. 1 Holzmark as the discovery well of a new field making wet gas. No. 1 Holzmark was completed at 3,552 feet.

The other Bee County test is Moody-Seagraves and Independent's No. 1 Welder now at 4,756 feet and drilling but with nothing of importance showing.

Elsewhere in Southwest Texas there has nothing developed during the week of interest. Tests in Blanco County that have been standing for some time have resumed drilling. The Weal Oil Co.'s No. 1 Martin, south of Welder in northern Gonzales County, last week took a core and sent it in for examination which started reports that it had something.

SOUTHWEST TEXAS

Bexar	293
Branyon	23
Bruner	14,964
Buchanan	111
Chapman	5,813
Dale	273
Duval	192
Darst Creek	30,976
Goliad County	159
Kingsville	114
Larremore	15
Luling	9,372
Lytton Springs	738
Manford	215
McMullen	30
Medina County	22
Mirando	14,516
Normanna	25
North Pettus	192
Pettus	8,056
Saxet	36
Somerset	1,341
Yoast	240
Total Southwest Texas	87,716
Week ending January 3	86,415
Increase	1,301

SOUTHWEST TEXAS PROVEN AREAS

DOBROWOLSKI POOL—BEXAR COUNTY

Company, farm and location—	Remarks:
Morgan Bros.' No. 3 Masterson, 300 ft. S of No. 2 Masterson, Miguel Gortaris Sur.	T. D. 550 ft.; set csg.
F. H. Eckert's No. 1 Dobrowolski, 400 ft. from W line, 150 ft. from S line of lease, Sur. No. 52	Location.
W. R. Swearingen's No. 2 Halberdier, 300 ft. SE of No. 1, J. Perege Sur.	T. D. 460 ft.; standing.
A. J. Swearingen's No. 6 Sandemer, 600 ft. S of No. 1, M. Manchaca Sur.	Location.
A. J. Swearingen's No. 7 Sandemer, 300 ft. S of No. 6, M. Manchaca Sur.	Location.

DARST CREEK FIELD—GUADALUPE COUNTY

Gulf Prod. Co.'s No. 15 Dix-McKean, J. R. Robinson Sur.	T. D. 2,590 ft.; comp. for 1,899 bbls.
Gulf Prod. Co.'s No. 11 Posey-Baker, J. R. Robinson Sur.	T. D. 2,599 ft.; comp. for 1,336 bbls.
Magnolia Petroleum Co.'s No. 6 Klein, 300 ft. S No. 3	T. D. 1,875 ft.; drlg.
Magnolia Petroleum Co.'s No. 5 Knodle, 300 ft. S No. 3	T. D. 425 ft.; drlg.
Magnolia Petroleum Co.'s No. 7 Rand Miller	T. D. 2,618 ft.; comp. for 252 bbls. pumping 25 per cent water.
F. L. Thomson's No. 2 Posey, 25 ft. from NW line, 300 ft. from No. 1	Location.

CHAPMAN POOL—WILLIAMSON COUNTY

W. D. Anderson's No. 6-A T. P. Simmons	Rig up and shut down.
Anderson's No. 7 M. V. Lawrence, Simon Miller Sur.	Location.
W. D. Anderson's No. 8 M. V. Lawrence	Location.
Bartlett & Wilson's No. 2 R. E. Stewart	T. D. 790 ft.; standing.
Bartlett & Wilson's No. 1 R. E. Stewart	T. D. 741 ft.; standing.
Birdwell et al's No. 2 Simmons, Harrison Owen Sur.	Location.
Chapman et al's No. 1-D Abbott	Location.
Chapman et al's No. 2-D Abbott	Location.
Chapman et al's No. 5-D Abbott	Location.
Chapman et al's No. 7-D J. C. Abbott	T. D. 200 ft.; shut down.
Chapman et al's No. 10-D Abbott	T. D. 1,951 ft.; comp. for 175 bbls. pumping.
Chapman et al's No. 2-E Sides	Location.

(Continued on Page 157)

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

BLANCO COUNTY

Company, farm and location—	Remarks:
H. L. Lewis' No. 1 Glasscock, moving in to drill on leases out of the Rodson block north of Blanco City	T. D. 500 ft.; shut down.
Hardy-Sitton's No. 1 McMillan	T. D. 700 ft.; shut down.
Liles-Adams et al's No. 1 Stanford, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T. D. 750 ft.; drlg.
McCleary et al's No. 1 Schenling, 900 ft. to SE line, 600 ft. to S line of J. A. Rouse No. 118 Sur., 4 miles SW from Blanco City	T. D. 550 ft.; shut down.
J. R Meek's No. 1 Walker, 360 rds. from W line, 482 rds. from S line of 375-ac. tract in Sur. No. 32	T. D. 985 ft.; fishing.
G. Rosenfield's No. 1 Hohenberger, 800 ft. to W line, 1,250 ft. to N line, Sur. No. 94	T. D. 562 ft.; drlg.

BASTROP COUNTY

Pacific Oil & Gas Co.'s No. 1 J. M. Litton, 150 ft. N and W lines of tract	T. D. 2,525 ft.; shut down.
Majestic Pet. Co.'s No. 1 J. M. Breeding, 160 ft. from N line, 1,020 ft. from W line of 200-ac. tract, 940 varas from W line, 1,225 varas from S line of M. Andrews Sur., 13 miles W from Smithville	T. D. 375 ft.; standing.
Humble Oil & Ref. Co.'s No. 1 Jones, 450 ft. from S line and 150 ft. from N line of farm, Jose A. Navarro Sur.	T. D. 1,493 ft.; dry and abnd.

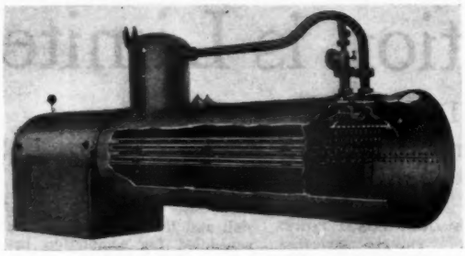
BROOKS COUNTY

Ed East's No. 3 B. Garcia, 150 ft. from N and W lines of Blk. 5, Share A-1, Las Mastena y Gonzalene grant	T. D. 1,002 ft.; drlg.

BEE COUNTY

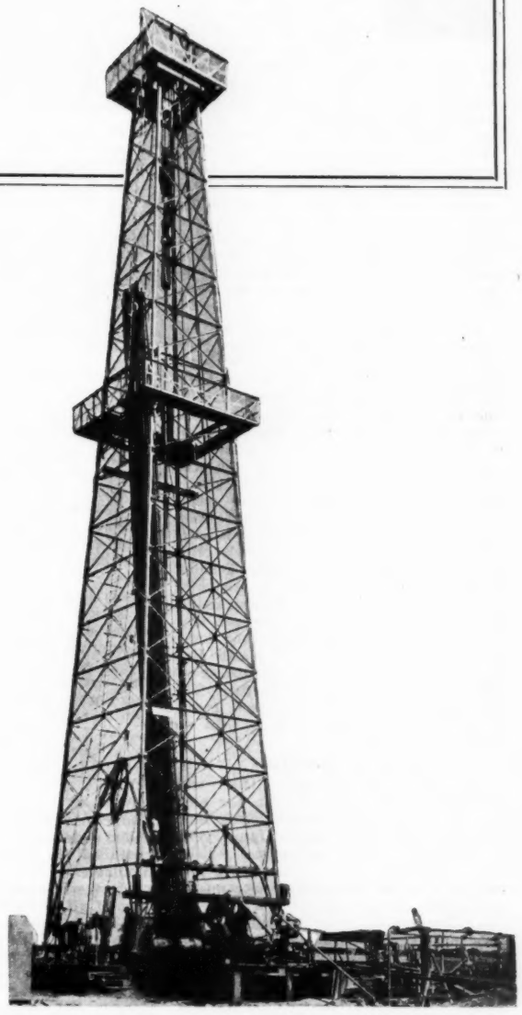
Hurlbut et al's No. 1 Mrs. D. Chestnut	T. D. 5,010 ft.; shut down.
E. S. Price's No. 1 Weiss, 200 ft. each way out of NW cor. of B.&B. Sur.	T. D. 4,423 ft.; preparing to swab.
E. S. Price's No. 2 Weiss, 900 ft. due SW of No. 1 Weiss, B.&B. Sur.	T. D. 4,462 ft.; circulating mud.
E. S. Price's No. 3 Weiss, 900 ft. due NE of No. 1 Weiss	Location.
Moody-Seagraves Producing Co. and Independent Oil & Gas Co.'s No. 1 Welder, 6,280 ft. from S line, 8,150 ft. from E line of Welder tract, Henry Eyles Sur.	T. D. 4,865 ft.; drlg.

(Continued on Page 158)



Faster Drilling

Is the Order of the Times



FASTER drilling is the accomplishment of every Elesco superheater application.

Where four 125-horsepower boilers carrying 350 lb. pressure were required, three boilers of 125 horsepower and 250-lb. pressure, equipped with Elesco superheaters, are now operating the same rig at faster speed.

Total elimination of line condensation, more nearly boiler pressure delivered to the engine and pump and greater flexibility of control makes this faster drilling possible.

To secure this greater return per dollar of investment and per dollar of wages requires the utilization of Elesco superheater-equipped boilers.

* * *

Oil-country boilers equipped with Elesco superheaters are supplied by the following leading boiler manufacturers:

The Broderick Company, Muncie, Ind.

Kewanee Boiler Corporation, Kewanee, Ill.

Donovan Boiler Works, Inc., Parkersburg, W. Va.

Lucey Manufacturing Corp., Chattanooga, Tenn.

Farrar and Trefts, Inc., Buffalo, N. Y.

Oil Well Supply Co., Oil City, Pa.

The Titusville Iron Works Co., Titusville, Pa.

* * *

THE SUPERHEATER COMPANY

60 East 42nd Street, NEW YORK

Peoples Gas Building
CHICAGO

ELESCO

Union Trust Building
PITTSBURGH

A-563

Let us send you a copy of Bulletin T-20, describing Elesco superheaters and giving results of comprehensive field tests. The coupon will bring it.

THE SUPERHEATER COMPANY,
60 East 42nd Street,
New York, N. Y.

Gentlemen: Please send me a copy of Bulletin T-20, "The Elesco Superheater for Oil-country Boilers."

Name .....

Position .....

Firm Name .....

Address .....

OG 1-15-31

North Belridge Production is Limited

Status of Kettleman Hills Soon to Be Determined. New Well on Middle Dome. Curtailment Begun at Playa Del Rey

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Jan. 10.—California removed another obstacle standing in the way of stabilization this week when operators in the Belridge Field of Kern County agreed to limit the production of that field for at least another year. Under the terms of this agreement, major companies have agreed to finish not more than one well and that any well put on production will be severely beaned back in the interest of conservation. If this plan works out as intended field production should not exceed 20,000 bbls. per day at the most. This is of paramount importance as the development of Temblor production has greatly increased the potentiality of this old field. The agreement to restrict production is also of prime importance from both a curtailment and conservation standpoint as the limitation placed on production will aid curtailment and reduce the waste of natural gas to a minimum.

The deep sand discovered by the Belridge Oil Co. in the North Belridge Field several months ago corresponds with the source of production at Kettleman Hills. The North Belridge Field is considerably smaller in areal extent than the North Dome at Kettleman Hills which has already been proven up for a distance of approximately 10 miles along the axis of the structure and, while it should likewise show a smaller ultimate recovery, it is a factor of no small consequence. The oil from both fields is quite similar and a high gas-oil ratio is characteristic of both areas. The Temblor discovery well at Belridge is producing 4,150 bbls. of crude and approximately 30,000,000 feet of natural gas per day. It is quite evident therefore that unrestricted development in the North Belridge Field would have a very disastrous effect on the general price structure. The new agreement will, it is believed, greatly minimize the effect of this field on general conditions.

Status of Kettleman

The status of Kettleman Hills will probably be determined within the next few weeks as a decision of some kind must be made on or before January 31 in conformity with congressional legislation. Kettleman Hills operators are proceeding with the plan which contemplates unification of development and it is the prevailing opinion that the unit plan of development will be ratified. There is a division of opinion, however, as to just how soon this program will become operative. From present indications it is expected that actual operation of the unit plan will be delayed until expiration of the existing Kettleman Hills agreement which limits drilling and production in the North Dome until July 31, 1931. This would be a logical procedure as there are still a number of complex problems confronting the committee and another few months would afford operators a little more time to study the situation thoroughly. The Kettleman Hills committee, under the direction of William Reinhardt of the Shell Oil Co., has been holding meetings practically every day for the past month or more in an effort to work out a development program which would be fair and equitable to all concerned. The problem is such a large one, however, and involves so much financially that every detail must be given serious consideration.

Statement by Chairman Boggs

After several weeks of hard work the operators' general committee on statewide curtailment believes it has solved at least one of the basic difficulties confronting the California oil industry by agreeing to absorb excess production of crude oil. Paul N. Boggs, chairman of the committee, in a statement released a day or two ago stated that "The curtailment to 500,000 bbls. which was to have become effective December 15 has not yet been a statewide success to date production having been reduced only to 535,000 bbls. This excess is due largely to the Playa Del Rey Field with a curtailment allotment of 20,000 bbls. daily not being under curtailment and thus creating an excess in state production of this amount. A plan now has been worked out between the curtailment committee and purchasing companies which we believe will make the statewide curtailment promptly effective and put the purchasing companies in a position to purchase all crude oil produced under curtailment and offered for sale. In fact I am now prepared to advise all operators who are not now under curtailment that as quickly as they come under curtailment and offer their curtailed oil there will be a purchaser available. I have every reason to believe that we will receive the enthusiastic support of all producers. This means elimination of economic waste in the oil industry of California. The successful stabilization of the oil industry on a sound economic basis by the end of 1931 is assured under this curtailment program."

Playa Del Rey

Although there is no unanimity of opinion regarding the advantages of curtailment, a number of operators in the Playa Del Rey Field of Los Angeles Basin have started to curtail production. Umpire Neal Anderson has made some progress, however, and a strenuous effort is being made to reduce the production of this field to its maximum allowable, as the result of work in this field may determine the future curtailment policy for the entire State. Completions at Playa Del Rey were not very numerous during the past week and, judging by the present status of work, new wells will be less frequent than heretofore. The Dana Petroleum Co. finished its first producer a few days ago when No. 1 Simmons was brought in on the beam pumping 105 bbls. per day from the Del Rey zone. This new well was bottomed at 4,085 feet and finished with an 8⅝-inch water string landed at 3,580 feet and a 5-inch liner carrying 509 feet of perforated. The International Petroleum Co.'s No. 3 Venice, finished at 4,555 feet, registered an initial of 165 bbls. per day, the oil testing 23.2 degrees. The Barnsdall Oil Co., which is developing the Burkes lease in conjunction with the Cypress Petroleum, has decided to do some additional work on No. 13-A in the hope that production may be stimulated as the Ohio Oil Co.'s No. 4 Recreation, a neighboring well, registered substantial production a short time ago.

Long Beach

There were no wells finished in the Long Beach Field during the past week, but a check of development work shows several projects nearing completion. A number of producing wells were shut down in the Long Beach Field this week due to the inability of operators to dispose of current production. Several other operators have found it necessary to begin storing oil and unless an adequate outlet is provided a number of additional wells will also be forced to go on the suspended list. The Transport Oil Co. has landed pipe in its No. 17 McCaslin, a deep test in the Huntington Beach Field, preparatory to testing out the deep zone discovered by the Superior Oil Co. several weeks ago. The Superior, which focused the attention of operators on the possibilities of a deep zone in the Huntington Beach town lot area, has reentered No. 7 Gillette, a former upper zone producer, and will carry this well on down to the new zone which it is confident it has found. The Superior's first deep zone exploratory well was wet due probably to a defective cement job as the water string froze above the point at which it was scheduled to be landed. The Shell Oil Co.'s No. 7 Manuel, a deep test in the Dominguez Field, is rotating ahead in a hard sandy shale at 8,475 feet. In the Seal Beach Field the Continental's No. 24 Selover is making footage at 8,080 feet.

Elwood

The Barnsdall and Rio Grande jointly developing acreage in the Elwood Field of Santa Barbara County, successfully finished well No. 6 on tideland permit No. 88 flowing 1,190 bbls. of clean 38.2 gravity oil per day. This new well, bottomed at 3,601 feet but subsequently plugged back to 3,400 feet, would have shown a much larger production if permitted to flow unrestrained. The Barnsdall and Rio Grande have one other well scheduled for completion in this field, after which no further drilling will be undertaken for some time in conformity with a drilling agreement ratified by all operators in this field. Production at Elwood has not yet been reduced to the allotment established by the operators general committee, although it is within striking distance of the field's objective. The decision to suspend drilling compensates for this slight excess, however, as the normal decline in production is expected to carry field production below the maximum allotment of 29,000 bbls. per day.

Ventura Avenue

The Shell Oil Co. added a new well to its list of producers in the Ventura Avenue Field when it completed No. 64 Taylor flowing 835 bbls. of clean 30.7 gravity oil per day. This new well, which was carried down to 4,578 feet and finished with a 9⅝-inch water string landed and cemented at 4,439 feet, was brought in barefoot, the 139 feet of producing formation being open hole. The Shell and Associated are both working on several potential producers which should be listed for completion within the next 30 days. The completion of these wells, however, is not expected to cause any substantial change in field production, as operators in this field are regulating production with extreme care. Daily production of the Ventura Avenue Field is several hundred barrels below the maximum allowable production of the field due to the splendid curtailment work of operators involved. The Ventura Avenue Field, which has been assigned a maximum allotment of 44,500 bbls. per day, could be stepped up to 100,000 bbls. and maintained at that figure if necessity demanded. The General Petroleum, which is developing permit No. 55 for Neil Needham in the Rincon Field, has spudded in the first well on this property and good progress has been made during the past week.

Mountain View

The Mohawk Oil Co., which is developing the Wharton lease on a 50-50 basis with the Shell, is expected to finish its first producing well in the Weed Patch, or Mountain Field of Kern County in the near future unless No. 1 Wharton is carried on down as an exploratory well. The Shell Oil Co. discovered this field in July, 1930, but has not yet produced oil on a commercial basis due to the absence of pipe line facilities and the existing overproduction situation. No. 1 Porter Day, the discovery well, proved up the existence of two productive zones before being deepened in search of additional horizons. The Shell is at the present time running two strings of tools in this field and preparations are being made to spud in No. 1 Morris, an offset to the Mohawk's No. 1 Wharton. In the Semitropic Ridge, the Shell Oil Co. has reached a depth of 9,000 feet in No. 1 Williams, a wildcat located in Section 17-27-23. This is the deepest wildcat under way in California at the present time and extreme care is being taken during the course of work as the Shell would like to attain a depth of 10,000 feet if possible.

Midway-Sunset

The Chanslor-Canfield Midway Oil Co. finished two new wells in the San Joaquin Valley during the past week. Out on the west front of the Kern River Field the company completed well No. 37 in Section 23-28-27, pumping 198 bbls. of 16.1 gravity oil per day from 2,225 feet. In the Midway-Sunset Field the company's No. 88 in Section 8-32-23 was good for 480 bbls. of 22.4 gravity oil per day from 2,864 feet. There are only a few wells being drilled in the Midway-Sunset Field at the present time and it

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	68,690	997,250
Fuel oil	.....	.....	.....	.....	71,950	468,825
Diesel and gas oil	74,187	10,591	117,000	16,714	4,171,933	3,450,951
Gasoline	219,120	31,303	526,322	75,189	19,582,815	21,363,074
Kerosene	.....	.....	.....	.....	.....	49,750
Naphtha distillate	.....	.....	.....	.....	.....	81,750
Coastwise—						
Crude oil	230,910	32,987	442,000	63,143	16,707,961	25,148,972
Fuel oil	396,236	56,605	488,611	69,802	19,372,430	20,314,736
Diesel and gas oil	.....	.....	5,311	759	1,635,433	1,262,739
Gasoline	182,935	26,134	273,239	39,034	12,899,499	11,661,808
Kerosene	7,922	1,132	.....	.....	174,184	72,997
Export—						
Crude oil	244,125	34,875	2,598	371	7,155,898	5,966,335
Fuel oil	362,261	51,752	274,641	39,234	17,783,361	19,424,691
Diesel and gas oil	135,126	19,304	152,984	21,855	4,477,645	2,849,860
Gasoline	138,120	19,731	82,925	11,846	15,391,146	12,666,325
Kerosene	59,529	8,504	.....	.....	3,288,240	3,284,586
Lubricants	.....	.....	.....	.....	59,179	.....

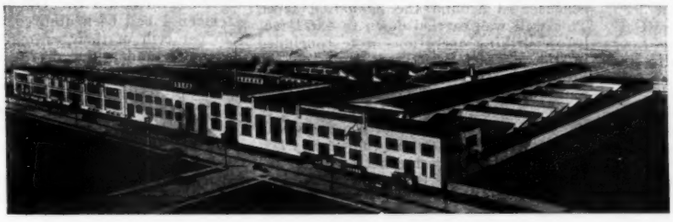
TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF PORTS

Diesel and gas oil	.....	.....	.....	.....	279,088	.....
Gasoline	.....	.....	.....	.....	1,144,921	2,423,552
Kerosene	.....	.....	.....	.....	10,760	.....
Lubricants	.....	.....	.....	.....	27,796	148,694
Coastwise—						
Fuel oil	64,516	9,217	64,000	9,143	3,498,763	3,232,823
Diesel and gas oil	.....	.....	.....	.....	362,474	366,004
Gasoline	188,817	26,974	42,819	6,117	4,544,732	5,387,269
Kerosene	.....	.....	2,516	359	222,235	211,613
Export—						
Crude oil	.....	.....	.....	.....	59,993	126,528
Fuel oil	.....	.....	55,380	7,911	1,161,782	841,631
Diesel and gas oil	.....	.....	.....	.....	539,646	393,132
Gasoline	60,210	8,601	87,091	12,442	4,251,666	5,587,349
Kerosene	.....	.....	.....	.....	593,097	624,180
Lubricants	.....	.....	.....	.....	33,579	34,575

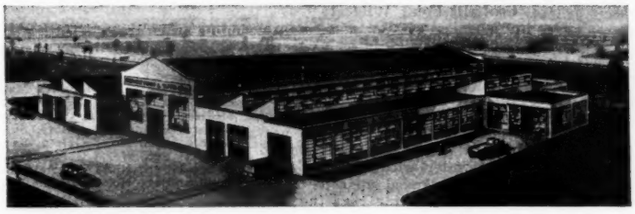
the Advantages of using

THE GREATER MIDWEST PIPING SERVICE

ST. LOUIS PLANT

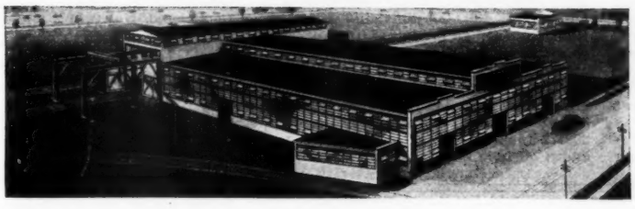


LOS ANGELES PLANT



PASSAIC PLANT

HOUSTON PLANT



THE oil industry from coast-to-coast has come to recognize the advantages of piping that is fabricated by Midwest. There are several very good reasons for this unusual recognition.

Four well-equipped plants strategically located and manned by highly skilled organizations assure pipe fabrication that is accurately to dimension, promptly delivered and in every other way in accordance with the most modern practices. Economies result from the large scale operations. An unexcelled store of specialized piping experience is always available; this has frequently been responsible for simplification of piping design and substantial cost reduction. Developments to improve piping practices and extensive research to anticipate the piping requirements of tomorrow are constantly in progress—work that a small company could not profitably undertake.

Whenever you need fabricated piping . . . whether complete piping for refinery, natural gasoline plant or pipe line pumping station, or only a pipe bend, coil or welded header . . . it will be to your advantage to get in touch with the nearest Midwest office.

MIDWEST PIPING & SUPPLY COMPANY, Inc.
MAIN OFFICE—1450 South Second Street, St. Louis

Offices: Chicago, 208 S. La Salle St. . . . Houston, 600 Bringhurst St. . . . Los Angeles, 520 N. Anderson St. . . . New York (Ballwood Div.), 30 Church St. . . . Tulsa, 733 Mayo Building

is quite likely that operators will suspend drilling upon conclusion of work now under way.

The most important development in the Lost Hills-Belridge Fields during the past week from a development standpoint was the failure of the Universal Consolidated Oil Co. to remedy the water trouble which has been holding up completion of its well No. 49 in Section 32-26-21. This well, which encountered the Temblor formation in the Lost Hills Field several weeks ago at 4,911 feet, has been cemented for the fourth time following an unsuccessful water test during the early part of the week. This well has definitely cored oil sand and should result in commercial production if the company can overcome this handicap. The General Petroleum is building rig for a deep test a short distance away from the Getty Oil Co.'s No. 1 Lincoln in the Lost Hills Field, and an early spud is anticipated.

North Belridge Deep Test

The Richfield Oil Co.'s No. 1 Belridge in the North Belridge Field of Kern County has turned out to be a real deep test for this area as the bit was rotating ahead a few days ago at 6,375 feet. This project, located in Section 22-27-20, is approximately 1 mile northwest of the Belridge Oil Co.'s discovery well which revealed the existence of Temblor production in this field last year. The present status of the Richfield's test indicates that it is apparently beyond the limits of production, although this will not be defiintely determined as the company may encounter a second zone in the bottom of the Temblor. The Belridge Oil Co. has instituted a rather aggressive development campaign in the North Belridge Field, although it is not likely that the company will produce more than one or two wells. The Belridge Oil Co., because of its extensive holdings in this field, is forced to undertake a rather aggressive drilling program in order to offset wells of other operators on acreage adjoining its own.

New Well on Middle Dome

The Standard Oil Co. has staked location for a new well in the Middle Dome of the Kettleman Hills structure and drilling is expected to get under way in the very near future. The Petroleum Securities spudded in a new well in the Middle Dome on January 1 immediately following expiration of the Kettleman agreement which prevented development work previous to this time. No. 1 Burbank of the Petroleum Securities in the Middle Dome is located in Section 30-23-19, while the Standard's projected test is situated in Section 29-23-19. Unless something unforeseen develops, the Petroleum Securities should be in a position to finish No. 2 Felix in the North Dome at Kettleman Hills in the very near future as this well is within a few hundred feet of completion at the present time. The Standard Oil Co.'s No. 65 in Section 29-21-17, an offset to the Superior's No. 1 Huffman, should also be completed in the near future as it is within 600 feet of its projected completion depth. The Union Oil Co.'s No. 1 Amerada-King in Section 29-21-17, another offset of the Superior's No. 1 Huffman, is rotating ahead in a hard brown shale at 5,450 feet.

The General Petroleum has plugged back No. 8 Erburu, a deep test in the Capitan Field of Santa Barbara County, and will attempt to develop commercial production in the present producing horizon located around the 2,000-foot level. This well was carried down to 4,071 feet before drilling operations were concluded in the characteristic red shale of the Sespe formation which so far has proven unproductive alnog the coastal area. The Kettleman Lakeview Oil Co.'s wildcat in the Tulare Lake section of Kings County was destroyed by a gas blowout when the bit in this project penetrated the gas horizon known to exist in this area. The rig and equipment was destroyed by the volume of gas estimated at 20,000,000 feet per day.

Coal Oil Point Wildcat

The Bolsa Chica Oil Co. made a production test of its wildcat at Coal Oil Point, 2 miles east of Elwood Field but result was very satisfactory. This test with approximately 170 feet of oil sand logged before drilling was concluded looked exceptionally promising for production but on a test the well flowed 2,000 bbls. of water with very little oil visible. The well sanded up after flowing for one day indicating that the hole bridged over. Work has been resumed and an attempt will be made to locate source of water which may be due either to bottom water, edgewater or a defective shut off.

RUMANIAN PRODUCTION

NEW YORK, Jan. 12. — Rumanian production of crude petroleum during November approximated 425,000 tons, the figure agreed upon under the terms of the proration plan which has since been abandoned. This compared with output of 430,000 tons in November, 1929. Principal producers in November were Astra Romana with 59,116 tons; Phoenix Oil with 50,985 tons; Steaua Romana with 48,331 tons; Creditul Minier with 43,338 tons; Sirius, with 33,591 tons; Romano-Americana with 29,572 tons; I. R. D. P with 28,523 tons; and Colombia, with 25,135 tons.

CHIPPEWA-GREENDALE, MICHIGAN, POOL MAKING OVER 5,500 BBLS.

By Paul A. Elliott

MUSKEGON, Mich., Jan. 10. — Daily production of the Chippewa-Greendale Pool of the Mount Pleasant oil field was found to average between 5,500 and 6,000 bbls. in a 10-day check for proration purposes ended today by the Pure Oil Pipe Line Co. All wells in this original section of the Mount Pleasant Field have been operated at capacity since January 1 to determine their potential. Wells completed before September 4, 1930, had been operated on a 60 per cent basis and new wells drilled into the Dundee since September 4 had been allowed to make only 25 per cent of their estimated open flow capacity under the proration order enforced for the last three months of the year.

Although the definite schedule for proration in the future has not been announced it is understood it will be based principally on the amount of storage space available to the pipe line company during the winter. Shipments of crude to refineries will not be resumed until spring permits the operation of tankers on the Great Lakes. Pure Oil Co. has a battery of seven 55,000-bbl. storage tanks in the Mount Pleasant Field and a like battery at the end of its 40-mile pipe line to Bay City docks on Saginaw Bay.

One Completion

The only successful new completion in Michigan during the week was a new dry gasser in Surrey Township, Clare County. The well is the Peninsular Oil Co.'s No. 1 Smith, NW SE SE, Section 1-17n-5w, and it made about 600,000 feet initial flow at a total depth of 1,420 feet. It was drilled only 2 feet into sands lying just above the Marshall formation. This is the fourth successful gasser completed in Clare Township where the gas field has not yet been outlined, although several dry holes also have been drilled. A duster is located between the Smith well and

(Continued on Page 159)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Olympic Realty Corp., No. 1 Barnes, Los Angeles Co.	14- 2-15	4,875	cleaning out
Hines Pet., No. 1 Ocean Park, Los Angeles Co.	9- 2-15	rig	suspended
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12- 2-15	4,211	sd. sh. drilling
Dwyer & Becker, No. 1 Compton, Los Angeles Co.	17- 3-13	4,520	cleaning out
Allison Synd., No. 1 Baldwin, Los Angeles Co.	8- 2-14	3,699	sd. sh. drilling
Cal. Ventura Oil Co., No. 1 Manhattan, Los Angeles Co.	30- 3-14	6,525	suspended
Cal. Ventura Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	3,396	suspended
Cal. Ventura Oil Co., No. 2 Hermosa, Los Angeles Co.	31- 3-14	3,300	cleaning out
Cal. Ventura Oil Co., No. 3 Hermosa, Los Angeles Co.	31- 3-14	rig	suspended
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24- 3-15	rig	suspended
Westwood Pet., No. 1 Hermosa, Los Angeles Co.	6- 4-14	rig	suspended
Wolfe, George, No. 1 Hermosa, Los Angeles Co.	6- 4-14	rig	suspended
Wood, C. L., No. 1 Hawthorne, Los Angeles Co.	10- 3-14	2,184	suspended
Alondra Co., Ltd., No. 1 Hawthorne, Los Angeles Co.	23- 3-14	rig	suspended
McMahon & McDonald, No. 1 Watts, Los Angeles Co.	12- 3-14	3,665	suspended
McKeon Drlg. Co., No. 1 Watts, Los Angeles Co.	1- 3-14	4,091	sd. sh. drilling
Shelley, C. M., No. 1 Torrance, Los Angeles Co.	12- 4-14	rig	suspended
Mack Oil Co., No. 1 Chatsworth, Los Angeles Co.	6- 2-16	rig	suspended
San-Van Oil Co., No. 1 Van Nuys, Los Angeles Co.	14- 1-16	1,588	gr. sd. drilling
Rio Hondo Pet., No. 1 Puente, Los Angeles Co.	14- 2-10	3,726	testing
Rucker & Smith, No. 2 Puente, Los Angeles Co.	27- 2-10	951	sd. drilling
Bardeen Pet., No. 2 Puente, Los Angeles Co.	2- 2-10	1,953	sd. sh. drilling
Vega Pet. Corp., No. 1 Puente, Los Angeles Co.	14- 2-10	2,510	cemented
Arden Oil Co., No. 1 Puente, Los Angeles Co.	15- 2-10	3,325	suspended
D. & B. Oil Co., No. 1 Puente, Los Angeles Co.	3- 2-10	4,620	cleaning out
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	30- 2- 9	1,092	suspended
Marcel Pet. Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	3,100	suspended
Cudahy Oil Co., No. 1 Bell, Los Angeles Co.	30- 2-12	700	sd. sh. drilling
The Texas Company, No. 1 Montebello, Los Angeles Co.	4- 2-12	rig	suspended
Celito Oil Co., No. 1 Monterey Park, Los Angeles Co.	25- 1-12	5,278	suspended
Wolfe, George, No. 1 Alhambra, Los Angeles Co.	24- 1-13	1,269	recemented
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	2,280	suspended
Rancho Oil Co., No. 1 Rosemead, Los Angeles Co.	30- 1-11	2,162	sd. sh. drilling
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	5,695	cleaning out
Nesa Pet., No. 1 Newport, Orange Co.	21- 6-10	4,910	suspended
Hall, H. L., No. 1 Newport, Orange Co.	20- 6-10	790	suspended
Gesell, T. F., No. 1 Newport, Orange Co.	29- 6-10	714	sd. sh. drilling
Standard, No. 1 Newport, Orange Co.	26- 6-10	3,298	hd. sd. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13- 4	2,519	suspended
Borderland Oil Co., No. 1 Point Loma, San Diego Co.	30-16- 3	4,175	suspended
Carr, O. K., No. 1 Capistrano, San Diego Co.	13- 8- 8	5,250	redrilling
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,382	suspended
San-Col Oil Co., No. 1 Colton, San Bernardino Co.	18- 1- 4	240	suspended
Western Gulf, No. 1 Santa Ana, Orange Co.	12- 3- 8	1,346	br. sh. drilling
The Texas Company, No. 1 Olive, Orange Co.	7- 4- 9	1,610	cleaning out

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	6,819	fishing
Fields Gas Co., No. 1 Santa Maria, Santa Barbara Co.	5- 9-33	5,570	suspended
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-33	5,091	br. sh. drilling
Barnsdall, No. 1 Gato Ridge, Santa Barbara Co.	9- 8-32	6,050	cleaning out
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2- 7-33	1,800	cemented
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	gas—shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	gas—shut in
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-28	4,000	br. sh. drilling
General Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	1,485	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	1,016	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	1,026	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21- 4-28	4,931	suspended
General Pet., No. 139 Goleta, Santa Barbara Co.	21- 4-28	1,035	suspended
General Pet., No. 143 Goleta, Santa Barbara Co.	21- 4-28	1,040	suspended
Boles Oil Co., No. 140 Goleta, Santa Barbara Co.	22- 4-28	1,040	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	1,035	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	1,032	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	1,019	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	1,035	suspended
Bolsa Chica, No. 191 Goleta, Santa Barbara Co.	24- 4-29	4,191	prod. test
Caldwell Brown, No. 159 Goleta, Santa Barbara Co.	24- 4-29	1,040	suspended
Cochran, J. H., No. 1 Naples, Santa Barbara Co.	7- 4-29	4,780	suspended
Johnson, George, No. 1 Goleta, Santa Barbara Co.	X- 4-28	4,089	suspended
Prairie Oil Co., No. 1 Orella, Santa Barbara Co.	32- 5-30	1,649	sd. sh. drilling
Cuyama Oil Corp., No. 1 Cuyama, Santa Barbara Co.	12-10-27	rig	rigging up
Hart Pet. Co., No. 1 Cuyama, Santa Barbara Co.	27-10-26	....	material
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	5,500	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Prairie Oil & Gas Co., No. 1 Ventura, Ventura Co.	30- 3-22	8,114	br. sh. drilling
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
Continental, No. 1 Rincon, Ventura Co.	23- 3-24	....	building road
Pure Oil Co., No. 1 S. P. Canyon, Ventura Co.	15- 4-21	2,591	cleaning out
Superior Oil Co., No. 1 Sespe, Ventura Co.	14- 4-21	4,396	sd. sh. drilling
Lockwood Valley Oil Co., well No. 1, Ventura Co.	32- 8-21	675	suspended
Nordon Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	6,590	cleaning out
Superior Oil Co., No. 1 Buttonwillow, Kern Co.	32-29-25	4,050	sd. sh. drilling
Federal Drlg. Co., No. 1 Buena Vista, Kern Co.	20-31-24	5,230	cemented
General Pet., No. 1 Belridge, Kern Co.	30-28-21	3,640	redrilling
The Texas Company, No. 1 Belridge, Kern Co.	22-27-20	3,554	sd. sh. drilling
Richfield, No. 1 Belridge, Kern Co.	20-27-20	6,360	br. sh. drilling
Standard, No. 1 Belridge, Kern Co.	31-27-20	4,414	sd. sh. drilling
Ohio Oil Co., No. 1 Belridge, Kern Co.	36-27-20	4,811	br. sh. drilling
Union, No. 17 Belridge, Kern Co.	36-27-20	3,515	br. sh. drilling
Reward Oil Co., No. 1 Belridge, Kern Co.	34-27-20	3,005	redrilling
Wallace, K. C., No. 1 Belridge, Kern Co.	32-29-21	4,081	sd. sh. drilling
Rio Cal. Pet., No. 1 Shale, Kern Co.	2-27-18	2,355	suspended
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	6,750	hd. sd. drilling
Shell, No. 2 Weed Patch, Kern Co.	29-30-29	5,000	sd. sh. drilling
Shell, No. 3 Weed Patch, Kern Co.	32-30-29	rig	rigging up
Mohawk Oil Co., No. 1 Weed Patch, Kern Co.	32-30-29	5,765	oil sand
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,130	suspended
Sayre, F. M., No. 1 Edison, Kern Co.	5-30-29	4,220	suspended
Standard, No. 1 Devils Den, Kern Co.	14-25-18	1,574	cleaning out
Wellport Oil Co., No. 1 Devils Den, Kings Co.	9-24-17	3,940	suspended
Shell, No. 1 Semitropic, Kern Co.	17-27-23	8,975	hd. sd. drilling
Cities Service, No. 1 Wasco, Kern Co.	16-28-24	1,880	core hole
C. C. M. O. Co., No. 1 Jasmine, Kern Co.	31-28-25	mtl.	building rig
Moran & DeCamp, No. 1 Mojave, Kern Co.	26-10-14	750	hd. sd. drilling
Meridan Oil Co., No. 1 Antelope, Kern Co.	11- 9-15	3,804	gr. sd. drilling
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	5,350	hd. sd. drilling
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	3,590	redrilling
Carruthers Oil Co., No. 1 Fresno, Fresno Co.	4-17-20	rig	suspended
Miracle Oil Co., No. 1 Cuyama, San Luis Obispo Co.	17-10-25	314	suspended
Panorama Oil Co., well No. 1, San Luis Obispo Co.	7-31-21	4,019	suspended
Latin Amer. Pet., No. 1 Shandon, San Luis Obispo Co.	21-27-15	4,525	recemented
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	21-27-11	3,941	suspended
Continental, No. 1 San Miguel, San Luis Obispo Co.	26-25-11	3,000	sd. sh. drilling
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.	24-28-12	916	sd. sh. drilling
Pismo Dome Oil Co., No. 1 Edna, San Luis Obispo Co.	5-31-13	3,010	cleaning out
Schockley, C., No. 1 Pismo, San Luis Obispo Co.	13-32-13	2,100	hd. sd. drilling
Pacific Inland, well No. 1, Monterey Co.	19-23-15	1,000	hd. sd. drilling
Brown, F. A., No. 1 Parkfield, Monterey Co.	15-23-14	816	suspended
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,635	gas well—idle
Murphy Oil Co., No. 1 Dudley Ridge, Kings Co.	20-23-20	2,703	sd. sh. drilling
Kettleman Dev. Co., No. 1 Tulare Lake, Kings Co.	32-22-19	....	grading
Kettleman Lakeview, No. 1 Tulare Lake, Kings Co.	11-23-19	1,304	gas blowout
Purman, T. H., No. 1 Reef Ridge, Kings Co.	36-23-17	1,580	sd. sh. drilling
Seymour, L. W., No. 1 Avenal, Kings Co.	10-23-16	1,148	reaming
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	5,550	sd. sh. drilling
Orinda Pet., well No. 1, Contra Costa Co.	32- 1- 3	1,361	hd. sd. drilling
White, Roy, No. 1 Pixley, Tulare Co.	3-23-26	4,495	suspended
Campbell Oil Co., No. 1 Porterville, Tulare Co.	22-22-27	857	abandoned
Jennings Synd., No. 1 Porterville, Tulare Co.	8-23-28	510	suspended
Miller & Sylvan, No. 1 Porterville, Tulare Co.	11-23-27	1,030	abandoned
Kettleman Trust, No. 1 Porterville, Tulare Co.	21-22-27	940	suspended
Turk & Campbell, No. 1 Porterville, Tulare Co.	34-22-27	1,352	suspended
Enterprise Oil Co., No. 1 Porterville, Tulare Co.	29-23-28	820	suspended
Grand View Oil Co., No. 1 Porterville, Tulare Co.	8-23-28	992	sd. sh. drilling
McCoy, W. D., No. 1 Porterville, Tulare Co.	35-21-27	1,040	sd. sh. drilling
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-17-24	2,060	redrilling
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	800	hd. sd. drilling
Getty Oil Co., No. 1 Nigger Heaven, Yolo Co.	23-12- 3	2,050	suspended
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	3- 2-10	3,714	hd. sd. drilling

BANKER

VITAL INFORMATION

. . . and yet it is just as important to your business as financial advice

WHEN you need investment advice, you intuitively turn to your banker. He is a tower of strength, an unfailing guide in time of financial perplexity.

Investing wisely in iron and steel sheets and plates is another problem, and often just as perplexing if the investment is to be sound and profitable. Here, Armco can show you the way to economy and efficiency, and an adequate return from every dollar spent.

Whether you require smooth-bore, rust-resisting spiral welded pipe, or plates and sheets for tanks, agitators, weak acid towers, and weather protection, the selection is measured strictly by the purpose. And back of your purchase is the cumulative experience of the world's *first* and *largest* exclusive producers of special analysis iron and steel sheets and plates.

You will find at Armco the alertness, dependability, and resourcefulness that are so important in establishing a standard source of supply.

Yours may be a great producing industry, requiring thousands of tons of durable, low-cost pipe and plate . . . Or a small refinery, seeking a metal of proved economy and dependability. Whatever it is, Armco can supply it, promptly, continuously, and satisfyingly.

In all this, Armco chemists, metallurgists, and research engineers—highly trained and experienced—are at your disposal. They are your "bankers in metal"—men who will help you realize the greatest possible dividends from your investment. Any of the offices shown below will welcome your request for their services. Write to them.

THE AMERICAN ROLLING MILL CO.
Executive Offices, Middletown, Ohio
Export: The ARMCO International Corporation
District Offices:
Chicago — Cincinnati — Cleveland — Detroit — New York
Philadelphia — Pittsburgh — St. Louis — San Francisco
Tulsa — Houston

ARMCO

PRODUCERS OF

ARMCO INGOT IRON

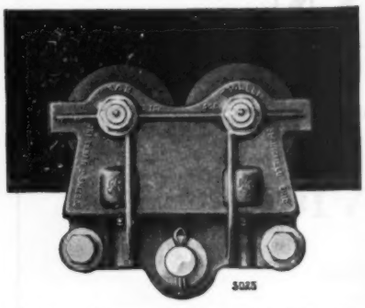
SHEETS, PLATE, AND PIPE

ANALYSIS IRON AND STEEL SHEETS AND PLATES

Oil Industry Equipment and Supplies

ACE TROLLEY EMBRACES DISTINCTIVE FEATURES

The new Ace trolley in plain and geared types ranging from one-half ton to 20-ton capacity is announced by the



hoist and crane division of Robbins & Myers, Inc., Springfield, Ohio.

In addition to conforming with approved principles of trolley construction, the Ace trolley embodies new features designed to add greater safety, utility, and durability. The following are noteworthy:

1. Heavy ribbed malleable iron frame, capable of taking severe overload without distortion; eliminates uncertainty of malleable or cast iron construction.

2. Chilled and crowned trolley wheels of high-tensile strength aromite with treads machine ground to a perfect circle.

3. R.&M. combination of eight Timken and four Hyatt roller bearings not only provides for all radial and thrust loads but also eliminates guide roller friction when trolley is used on monorail beams. All bearings rendered dust proof by fully protective design.

4. Vertical guide rollers rotating on Hyatt dustproof roller bearings bear against edge of I-beam flange on curves, permitting use of trolley on extremely small radius curves.

5. Safety lugs and wheel guards prevent trolley from falling in event of wheel or stud failure, the possibility of which is remote.

6. Smaller sizes of the Ace trolley are adjustable to seven I-beam sizes. Crowned wheel design permits trolley operation on Bethlehem and other special beams within standard flange limits.

7. Axle studs drilled for Zerk alemite lubrication; felt washers on both sides of trolley wheels retain lubricant and exclude dust.

8. Double aluminum finish applied throughout make for attractive appearance and provides enduring protection against fumes and exposure.

Bulletin 5,025, covering the complete line of Ace trolleys, is ready for distribution by the manufacturer, along with other literature describing Robbins & Myers hand and electric hoists and cranes of many types.

BRITISH AGENT FOR McKEE

Arthur G. McKee & Co., Cleveland, Ohio, engineers and contractors, has made an arrangement with the Whessoe Foundry & Engineering Co., Ltd., of Darlington, England, under which the latter will act as the exclusive manufacturing agent in Great Britain for the manufacture of McKee oil refinery and blast furnace equipment. The McKee company, organized in 1905, designs and builds oil refinery plants, blast furnaces, steel mills and industrial plants. It now is designing and supervising the construction of a large steel plant in the Ural Mountains in Russia.

AMONG THE EQUIPMENT HOUSES

The Hays Corp., of Michigan City, Ind., has begun construction of a steel and brick foundry building adjoining its present factory to provide an additional 6,000 square feet of space for the manufacture of Hays combustion efficiency instruments.

Champion & Barber, Inc., formerly of 506 Subway Terminal Building, Los Angeles, Calif., have moved their offices to 576 of the same building to gain needed room.

The Dunbar Engineering Co., 122 East Forty-second Street, New York, is now representing the Edward Valve & Manufacturing Co. in those portions of New Jersey, Pennsylvania, Delaware, Maryland and Virginia, which formerly were handled by representatives in Philadelphia and Baltimore.

Those units of Union Carbide & Carbon Corp. whose products are used in the main for oxyacetylene welding and cutting are to market their products through the Linde Air Products Co.

Harry S. Ransom has been appointed manager of sales of the Fort Pitt Steel Casting Co., McKeesport, Pa.

F. W. Deppe, formerly district sales representative in St. Louis, Mo., for the Reading Iron Co., Reading, Pa., has been made manager of sales, with offices at 230 Park Avenue, New York.

T. K. Quinn, of Cleveland, Ohio, and Charles E. Wilson of Bridgeport, Conn., have been elected vice presidents of the General Electric Co.; H. H. Barnes, Jr., of New York has been made a commercial vice president in charge of the New York district, and J. L. Buchanan of Bridgeport has been named president of the General Electric Supply Corp.

The Aeroil Burner Co., Inc., with factory in West New York, N. J., and branch offices in Chicago and San Francisco, has appointed Herbert M. Orschel as field sales manager.

The Maintenance Engineering Corp., Houston, Tex., has appointed J. F. Huitt sales engineer, to assist in the promotion of the more technical specialities for refineries, pipe lines and power plants, handled by the company. Mr. Huitt studied mechanical engineering and power plant operation together with commercial testing in Washington University. He formerly was with the Shell Petroleum Corp. in the engineering department and later as assistant chief technologist.

NEW SULCO PRODUCT OFFERED

The Sullivan Co. of Memphis, Tenn., and Montreal, Canada, has announced an addition to its products, Mud-flux, compounded to facilitate handling the mud problem in the oil fields.

Mud-flux is a liquid used in the proportion of 1 gallon to approximately 10 bbls. of mud. It is simply injected into the slush and enables the operator to make a mud of any weight, since Mud-flux, according to the manufacturers, cuts down the viscosity and reduces the heaviest of muds to a liquid easily pumped, breaking down gas bubbles and eliminating feathering. The action of Mud-flux brings the mud into a more compact mass, fluxing it into a flowing consistency.

PAINTS PIPE WHILE MOVING ON KNIFE-EDGED WHEELS

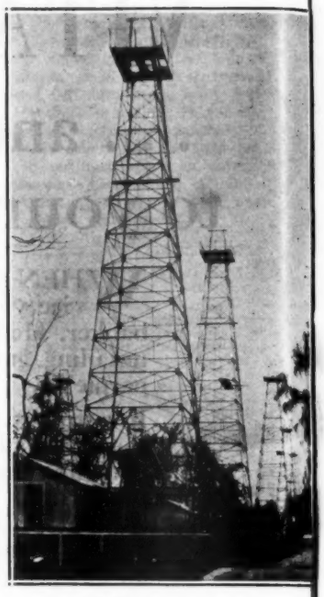
The No. 61 pipe-painting outfit made by the Binks Manufacturing Co., Chicago, permits the spraying of pipe from 12 inches to 30 inches in diameter.

Pipe to be finished is usually laid at the side of the trench. The ground is uneven and probably the pipe often is much higher from the ground in the center than at the two ends. This difficulty necessitates a spray unit where the nozzles can be kept at a fixed distance from the surface of the pipe to be coated. This is accomplished by supporting the spray guns on a frame, mounted on a four-wheel carriage, with knife-edged wheels that leave no marks where they pass over a freshly painted surface.

The carriage is so made that it is easy to adjust the distance from the surface to be coated. The spray guns on the equipment are mounted on adjustable arms so that their distance from the surface may also be altered. This adjustment feature is of utmost importance due to the fact that under certain operating conditions, such as very windy days, etc., it is easy to adjust the nozzles closer to the pipe, thereby getting sufficient coating and eliminating any loss of material.

CHALLENGER DERRICKS IN GULF COAST REGIO

Here is shown a row of Lee C. Moo 94-foot Challenger angle derricks on t O'Brien lease of the Empire Gas & Fu



Co. near Liberty, Tex. The high pl forms and foundations are necessary f the reason that the lease is located the Trinity River bottom which often flooded.

GASO ABOUT TO OFFER PIPE LINE PUMP UNI

The Gaso Pump & Burner Manufact ing Co., Tulsa, which recently announc a completely enclosed, Timken-beari equipped pump and a worm-drive ap cation to a pump for the use of hi speed driver with only one internal duction, is about to put on the market new unit for the pipe line pumping fie The unit is reported to have been check and tested for service.

The company recently shipped to t Standard Oil Co. of New Jersey large pumping units for the Standar Venezuelan operations and 32 pumps the Baku fields in Russia. Shipmen also have been made to Trinidad, Egy and other foreign territory. There h been an unusual demand for the smal pumps of the type made by this compan this business being conducted through export offices at 149 Broadway, N York, in charge of A. V. Simonson. T company has been keeping its regu force steadily employed.

Besides a full line of pumps for pi line, water and refinery service, the co pany manufactures practically all ite used in connection with pipe lines, su as strainers, tees, ells, clamps and s dles, specializing on cast iron and m leable ground joint flange unions.

NEW PUSH BUTTON CONTROL

The General Electric Co. announces new pendant type push button for co trolling small floor-operated cranes. Th is designed to supersede the present ro and chain types of control, with the a vantages of greater safety to the ope ator, a saving in time (only one ma being necessary to operate the crane) an less aisle space required on the facto floor.

Do you know of any other cracking process that is doing that?

A Dubbs unit is always profitable

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Natural Gas Industry Developments

BASIC REQUIREMENTS OF GAS APPLIANCES

. A project for the establishment of American standards for the basic requirements of gas appliances has been announced by the American Standards Association. The project will be placed in the hands of a technical committee under A.S.A. procedure at the request of the American Gas Association which will direct the technical work of the committee.

The scope of the work as agreed upon by the American Standards Association and the American Gas Association is the "establishment of minimum or basic requirements for performance, safe operation, and substantial and durable construction for domestic gas burning appliances; together with laboratory methods of test for determining compliance therewith."

A committee of the American Gas Association has been working on this subject for a number of years. This committee, enlarged to assure balanced representation of producers, distributors, consumers, and other important groups will continue this work under A.S.A. auspices. Acting under the chairmanship of R. B. Harper, of the Peoples Gas Light & Coke Co., Chicago, Ill., the committee will include representatives of the United States Bureau of Standards, Bureau of Mines,, Department of Agriculture, Public Health Service, Bureau of Home Economics (Department of Agriculture), American Home Economics Association, Master Plumbers' Association, Heating and Piping Contractors National Association, five gas companies and seven gas appliance manufacturers.

NORTH DAKOTA FRANCHISE

CASPER, Wyo., Jan. 10.—A fight is developing in Minot, N. Dak., to serve that point with natural gas. The Minot Gas Co. serves the city with manufactured gas and the Montana-Dakota Power Co. has asked for a franchise. The city commission laid the request for a franchise on the table until next May, but the citizens objected to this procedure and presented a petition to the commission asking that the company be given a franchise. The commission has set January 27 for an election to decide the matter. The Montana-Dakota Power Co. has its pipe line laid to Williston and has agreed, if a franchise is granted, that it will start work early in the spring to extend the line to Minot. Now the Minot Gas Co. has come out with a statement that it will bring natural gas to Minot next year if granted a franchise.

The Bowdoin Utilities Co. has agreed to pay the expenses of a special election at Poplar, Roosevelt County, Montana, to decide whether the company is to have a franchise to serve Poplar with natural gas.

WARFIELD GAS CONTRACT

United Carbon Co. has signed a long term contract with Warfield Natural Gas Co., a subsidiary of Columbia Gas & Electric Corp., whereby Warfield will purchase all the natural gas to be produced from the lands and leases held by United Carbon in eastern Kentucky. The properties total 83,629 acres and contain reserves estimated at 403,000,000,000 feet of gas.

DRILLING FOR GAS

CHATHAM, Ontario, Jan. 10. — The Canadian Western Natural Gas, Light, Heat & Power Co. of Calgary is reported drilling below 1,700 feet on a test for gas south of Burdett, in the southern Alberta area.

OKLAHOMA COMPANIES BROKE ALL RECORDS

Natural gas companies operating in Oklahoma broke all former records in 1930 by expending approximately $8,000,000 for extensions and betterments of service, according to estimates of the Oklahoma Utilities Association. A preliminary survey conducted by the association indicates that even greater expenditures will be made by gas companies during 1931 for new construction and betterments. Approximately 600 miles of new gas transmission lines, ranging from 4 to 22 inches in diameter, were laid in Oklahoma during the past year. This does not include thousands of miles of smaller pipe laid for gathering and distribution lines. Much activity was shown by towns which have not heretofore had natural gas service in voting franchises to gas companies. Thirty-seven towns granted franchises or contracts to gas companies, as follows: Binger, Hydro, Lookeba, Hinton, Gracemont, Verden, Laverne, Foss, Canute, Corn, Howe, Spiro, Mounds, Duke, Olustee, Collinsville, Nichols Hill, Atoka, Caddo, Tryon, Coyle, Agra, Vinco, Shattuck, Fargo, Gage, Lockhoma Estates, Krebs, Vian, Moore, Cheyenne, Warner, Carmen, Aline, Dacoma, Allen and Fairland. Natural gas distribution systems were completed and service installed for the first time during 1930 in the following Oklahoma towns and communities: Foss, Howe, Spiro, Duke, Olustee, Nichols Hill, Caddo, Tryon, Shattuck, Fargo, Gage, Krebs, Vinco, Agra, Moore, Lockhoma Estates, Warner, Wilburton, Hartshorne, Verden, Gotebo, Perkins, Orlando and Hastings.

SWEETGRASS GAS OUTPUT

CASPER, Wyo., Jan. 10.—A production of 10,000,000 feet of gas per day is reported to have been encountered by Western Natural Gas Co. in its No. 1 Mahoney on the Reserve structure, in the Sweetgrass Hills at a total depth of 2,060 feet. Rock pressure is 700 pounds per square inch. The well is on the western edge of the structure.

MONTANA MERGER

CASPER, Wyo., Jan. 10.—The Capital Gas Corp., the Monarch Gas Corp., the Coulter Gas Corp., and the Jones Oil Co. have announced their merger into one company.

LOS ANGELES RATE CUT ENJOINED BY COURT

LOS ANGELES, Calif., Jan. 10.—After a hearing the United States Court has granted the Los Angeles Gas & Electric Corp. and interlocutory injunction against the State Railroad Commission, the governor an other state officials, and officials of Los Angeles and other communities, prohibiting all from enforcing a recent order of the railroad commission reducing the rates of the gas company.

It is probable that the present gas rates will remain as previously for at least 120 days, but in the meantime the gas company will be required to post a bond of $200,000 to assure the court that accurate accounts will be kept so refunds may be made to consumers if the injunction is later dissolved.

United States Circuit Judge Wilbur headed the court. Sitting with him were United States District Judges James of Los Angeles and Jacobs of Arizona. The decision of the court was announced by Judge Wilbur and amplified by the other judges.

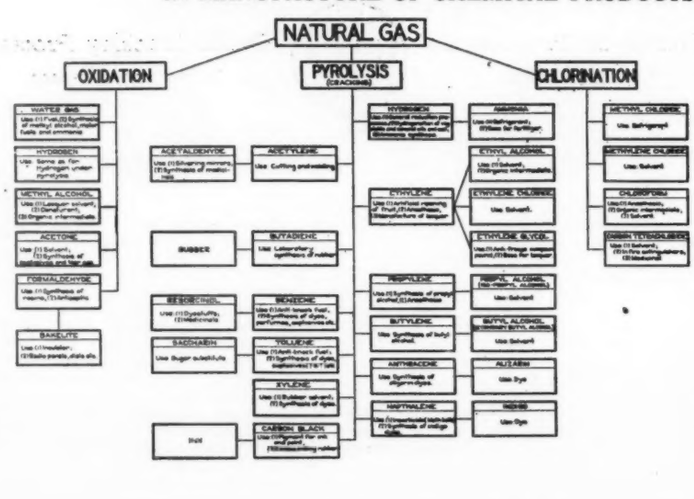
Judge Wilbur stated: "In view of the gravity of the question raised, the judges constituting this court will grant the interlocutory injunction pending a final decision. A decision granting a permanent injunction, if one were issued, would only mean that this new rate would not be collected. The court would leave to a regulatory body the question of the rates to be charged."

Under the order of the railroad commission gas rates would be cut $1,300,000 a year.

It was held by Herman Phleger of San Francisco and Paul Overton, representing the gas company, that the order of the commission was confiscatory, that the commission did not give consideration to the fair value of the gas company property in accordance with a decision of the United States Supreme Court, that the commission purported to fix rates upon the historic value of the gas company property, but, in effect, it did not do so, because it failed to include in the cost of producing the property's actual overhead cost, which entered into its construction.

The plaintiff company has 60 days to file a brief and affidavits, the railroad commission and other defendants have 30 days to answer, and the plaintiff company has another 30 days to reply.

POSSIBLE UTILIZATION OF NATURAL GAS IN MANUFACTURE OF CHEMICAL PRODUCTS



SASKATCHEWAN GAS CO TO TAP BOWDOIN AREA

CHATHAM, Ontario, Jan. 10.—A new company, Southern Saskatchewan Gas Co., Ltd., incorporated to supply natural gas in Saskatchewan from the Bowdoin Field, in Montana, has submitted an offer to Regina city council for supplying gas to that city. If the company secures a franchise, the project will be financed, controlled and managed by Nesbitt, Thomson & Co., Montreal investment bankers and by the Power Corp. of Canada, a Nesbitt-Thomson company.

The new offer says a pipe line can be constructed from Bowdoin Field at less cost than from other natural gas areas, requiring only 175 miles of pipe against 370 miles for Kinsella Field and 450 miles for Turner Valley Field. It is claimed the Bowdoin line would result in saving to the people of Regina of over $700,000 a year, or of over $400,000 annually after deducting duty on gas imported from the States, while the saving for the life of a 20-year franchise would be, it is said, $8,000,000, and in case duty were removed, $14,000,000.

In submitting the proposal, representatives of the Montreal interests stated that their figures on savings under the Bowdoin line plan "will enable the local government board to fix rates for house heating at 36½ cents per 1,000, or with duty 42½ cents per 1,000, instead of the high rates you have under consideration."

The city council of Regina already had taken a step toward granting of a franchise to a company which would bring gas from the Kinsella Field in Alberta, when a resolution was passed at a meeting in November instructing the city solicitor to negotiate with the solicitor of Tri-Cities Utilities, Ltd., and draw up an agreement. The application of Tri-Cities Utilities was chosen as the most favorable of four proposals that had been considered.

The application of Southern Saskatchewan Gas Co. for the franchise came before the city council at a special meeting called to consider a draft of the agreement between the city of Regina and Tri-Cities Utilities. Council decided that the new application could be considered in conjunction with the franchise agreement, and that the draft agreement under consideration should be gone over without reference to the name of company to which the franchise may be granted.

Representing Tri-Cities Utilities, Ltd., C. O. Moore, of New York, stated at the council meeting that gas could not be sold in Regina cheaper than his company could sell it. While the distance from the Kinsella-Wainwright Field would be 160 miles greater than from the Bowdoin Field and the cost of the pipe line $4,678,000 more, he claimed that the company would put on 10,000 more customers to help pay the bill. The Moore proposals include the supplying of natural gas to consumers in Saskatoon and other Saskatchewan towns and cities as well as Regina.

LITTLE ROCK EXTENSION

Little Rock Gas & Fuel Co. of Little Rock, Ark., has completed construction of 2,000 feet of new 12-inch high pressure lines on the Broadway Bridge, replacing the old 8-inch line which was built in 1923.

The new line will double the former supply of gas from Clarksville available to Little Rock and the distribution systems south of the city. A part of the improvement included the laying of 1,500 feet of 8-inch high pressure main to supply the power plant of the Arkansas Power & Light Co. which will use approximately 1,000,000,000 feet of gas annually.

West Texas Withdrawals at New High

Unitized Test Planned in Central Ector County. Upton County Completion Rated Around 300 Bbls. on Pump

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Jan. 12.—Withdrawals of crude from storage in West Texas reached a new high this week when 61,325 bbls. per day were taken from the tanks in that area, daily average distribution reaching 335,079 bbls. per day while production stood at 273,754 bbls. per day, these amounts including production and distribution in New Mexico. Oil run through main lines totaled 304,298 bbls. per day whereas the last period's runs were only 275,220 bbls. per day, showing five of the trunk lines carrying less oil this week, and the other five carrying more oil. Runs to refineries showed a small gain, while tank car shipments were reduced about 4,000 bbls. per day.

The past few weeks have shown runs from storage almost every week, and at the rate it has been taken out, all tanks in the district will be drained in a short while if withdrawals continue at the present rate. Production declined 4,761 bbls. per day this week, bringing the total daily average down to 235,394 bbls. for the district.

Big Lake Oil Co.'s No. 5-C University, the last of the deep wells to be brought in, and the eighth deep producer of the Big Lake Field, Regan County, continues to show a daily gain, as it has done every day since it was completed on December 31 at a total depth of 8,718 feet. During the past week it has averaged 1,370 bbls. daily, making 1,215 bbls. on January 3 and increasing in flow every day until January 9 when it showed 1,507 bbls., an increase of almost 300 bbls. per day in the week.

Locations Staked

Only three locations were staked in West Texas during the week, and only four producers were completed, two being in the Church-Field and McElroy Pools in Crane County, one in the O'Brien Pool, northern Ward County, and one in Jones County. The Moody Oil Corp. abandoned four locations in the Howard County fields, and temporarily abandoned two other wells which have been shut down for some time. Five other dry holes were abandoned in various counties in the district, one of these being T. B. Slick estate and others' No. 1 August, in Section 1,216, G.C.&S.F. Survey, northern Reagan County, at a total depth of 3,145 feet. This was an exceptionally interesting test for the area in which it was drilled, but was dry. Tests drilled in the county have had hopes of picking up the pay horizon found in the Big Lake Pool, but have all failed except the Skelly Oil Co.'s No. 1 Grayson, approximately 3 miles south of that pool, which opened a small area, the wells producing a negligible amount of oil per day.

Eppenauer and others' No. 3 Chaney, in Section 18, Block 3, M.K.&T. Survey, Upton County, is another of the few wells completed in Upton County during the past few months. It is rated good for around 300 bbls. at a total depth of 2,433 feet, this estimate based on its ability to pump. For the first 10 hours on pump it made 15 bbls. per hour without pumping off, and will probably be completed during the week at this depth.

Penn Oil Co.'s No. 1 Alvis, in Section 155, Block 3, T.&P. Survey, approximately 15 miles southwest of Fort Stockton, hit a pocket of gas at 865 feet during the week, with an increase in gas registering from 905-15 feet, making about 100,000 feet of gas at the latter depth with a slight showing of oil in the cuttings, but the gas is now exhausted, and the test is drilling ahead at 1,050 feet in red beds. Elevation of the test is 3,493 feet. It is about 10 miles northeast of Pure Oil Co.'s No. 1 Harrison, in Section 203, Block 3, T.&P. Survey, which is shut down at 5,000 feet for orders to be abandoned at that depth or to be carried deeper.

Unitized Test in Ector

Central Ector County is to be drilled by a unitized test on the Elliott Cowden ranch, in the C CE, Section 12, Block 44, Township 2s. The Penn Oil Co., Gault-Brown Co., Shell Petroleum Corp., and the California Co. have pooled their acreage to the extent of approximately 7,000 acres, and will be the first unitized test in this area. It is about 12 miles due south of the Southern Crude Oil Purchasing Co.'s producing well on the Cowden ranch, or approximately 7 miles northeast of the Penn Pool.

Texas Pacific Coal & Oil Co.'s No. 1 James, in Section 5, Block 34, H.&T.C. Survey, Ward County, an offset to the company's No. 1 Barker, a producer completed a few months ago, is now shut down at 2,355 feet for storage. It topped the pay at 2,310-15 feet, encountered an increase at 2,340 feet with 1 bailer of water per hour, but the water is exhausted. This is the second producer for this area which lies between the Shipley Pool and the two producers on the Bennett ranch to the northwest.

Many companies, in fact most of them, have realized a 50 per cent cut in their rentals on West Texas leases to 25 cents per acre due to the fact that they have given the ranchers their option of taking this reduction on rental prices and having the leases kept in force with the 25-cent rentals forthcoming each year until the leases are eventually drilled, or allowed to revert to the fee owner, or of having the leases cancelled this year. The ranchers dislike taking this reduction, but as the 25-cent rentals pays or help to pay the taxes on the land, and that price is better than no rental at all, the majority are accepting the lowered rental fee knowing that they are benefiting by it.

COMPLETIONS IN WEST TEXAS

Concho County

Beesley and others' No. 1 Waring estate, temporarily abandoned location.

Crane County

Simms and Atlantic's No. 3 University, top pay 3,029 feet, shot 300 quarts 3,027-3,122 feet, initial production 225 bbls per day, total depth 3,122 feet.

Gulf Production Co.'s No. 86 McElroy, top pay 2,806 feet, shot 170 quarts 2,806-2,976 feet, initial production 170 bbls., total depth 2,980 feet.

Glasscock County

World Oil Co.'s No. 3 L. S. McDowell, temporarily abandoned, total depth 660 feet.

Howard County

Moody Oil Corp.'s No. 23 Roberts, temporarily abandoned, total depth 261 feet. Same company's No. 24 Roberts, abandoned location. Same company's No. 25 Roberts, temporarily abandoned, total depth 246 feet. Same company's No. 26, abandoned location. Same company's No. 27 Roberts, abandoned location. Same company's No. 28 Roberts, abandoned location.

Jones County

Union Oil Co. of Nevada and Shaheen's No. 1 Hedrick, top pay 1,969 feet, initial production 92½ bbls., estimated 45 bbls. on pump, total depth 1,971 feet.

Menard County

Barnett and others' No. 3 Callan City Co., dry and abandoned, total depth 2,120 feet.

Pecos County

J. R. Bell and others' No. 1 Eaton, dry and abandoned, total depth 1,750 feet.

Reagan County

T. B. Slick estate and others' No. 1 August, dry and abandoned, total depth 3,145 feet.

Taylor County

Hucony Oil & Gas Co.'s No. 1 Ritchie, dry and abandoned, total depth 3,016 feet.

Tom Green County

Phillips Petroleum Co. and others' No. 1 Golden, temporarily abandoned, total depth 5,010 feet.

Ward County

Gulf Production Co.'s No. 15 O'Brien, top pay 2,582 feet, initial production 47 bbls. daily with 170,000 feet of gas, total depth 3,000 feet.

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended January 12

ANDREWS COUNTY

Company, well, farm name, section and block—	Remarks—
Deep Rock Oil Co. et al's No. 1 Kuykendall, 2,310 ft. from N and E of SW cor., Sec. 24, School Blk. A-46	Drlg. 2,830 ft.
Deep Rock Oil Co. et al's No. 1 King, 330 ft. from N and 2,310 ft. from E, Sec. 11, Blk. A-46	Top pay 4,335 ft.; flows every 4 days; temporarily abandoned; total depth 4,454 ft.

BREWSTER COUNTY

Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Shut down 1,935 ft
E. L. Chapman's No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur.	Shut down 1,302 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 920 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur.	Shut down 2,585 ft.
Van McPhail's No. 1 McIntyre, SE cor., Sec. 59, Blk. 352, 7 miles S of Alpine	Shut down 1,750 ft.

COKE COUNTY

Reed, Hitchens et al's No. 1 Duncan, 1,980 ft. from S and 1,650 ft. from E of Sec. 239, Blk. 3, H.&T.C. Sur. (4,500-foot cable test)	Location.

CONCHO COUNTY

Turner et al's No. 1 Borsig, 150 ft. from S of NE cor. G. Emmig Sur. 130, 6 miles W of Paint Rock	Shut down 1,520 ft.

CRANE COUNTY

Continental Oil Co.'s No. 1-C Cowden Bros. & Co., 207 ft. from N and 2,470 ft. from W, Sec. 81, Blk. X, C.C.S.D.&R.G.N.G. Sur.	Drlg. 2,230 ft.
Cranfill Bros. and Gulf's No. 1 J. B. Tubb, 2,310 ft. from N and 330 ft. from E of Sec. 8, Blk. B-27, Public School Land	Drlg. up guide plug; spraying estimated 30 bbls. oil per day.
Cranfill Bros.' No. 1 Muir, 330 ft. from N and 2,310 ft. from W, Sec. 23, Blk. B-27, Public School Land	Drlg. 3,952 ft.
Duffey et al's No. 1 Cowden Bros. Co. (Gulf), 990 ft. S. and W of C, Sec. 81, Blk. X, C.C.S.D.&R.G.N.G. Sur.	Location.

CROCKETT COUNTY

Dieringer et al's No. 1 Banscorew estate, 50 ft. from N and 1,213 ft. from E of NW of Sec. 27, Blk. HH, G.C.&S.F. Sur.	Drlg. 2,240 ft.
Doleman & Moore's No. 1 Perner, 3,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and shut down.
Magnolia Pet. Co.'s No. 2 Hoover, 3,310 ft. from S and 335 ft. from E of Sec. 2, Blk. FF, B.&B. Sur.	Swabbing and bailing 6 bbls. oil per day; total depth 2,056 ft.; shut down for storage.
Taylor-Link Oil Co.'s No. 1 Mary Bullock et al, 330 ft. from N and E of Sec. 41, T.C. Sur.	Shut down 2,300 ft.

CULBERSON COUNTY

Cranfill Bros. and Sholts' No. 1 Seay, 2,310 ft. from S and W, Sec. 45, Blk. 60, Public School Land	Drlg. 150 ft.
Grisham & Hunter's No. 2 Garren, 2,475 ft. from S and 1,566 ft. from E, Sec. 20, Blk. 89, Public School Land	Shut down 1,520 ft.; show oil 1,400-15 ft.
Kornrumpf et al's No. 1 Garren, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land	Shut down 1,180 ft.

DAWSON COUNTY

Albaugh et al's No. 1 Robinson, C NW, Sec. 46, Blk. M, E.L.&R.R. Sur.	Spudded 20 ft. and shut down.

ECTOR COUNTY

Gault, Brown & Penn's No. 1 Cowden, C SE Sec. 12, Blk. 44, Twp. 2s, T.&P ur	Location.

(Continued on Page 143)

WEST TEXAS PRODUCTION

Week Ended January 10

County—	No. wells	Bbls.
Andrews	3	90
Crane	372	22,869
Crockett	49	1,665
Ector	76	6,880
Fisher	8	1,354
Garza	0	32
Howard-Glasscock	533	15,961
Irion	7	80
Jones	74	1,320
Loving	35	3,060
Mitchell	149	2,030
Pecos	526	94,540
Reagan	253	21,715
Runnels	4	100
Scurry	5	8
Taylor	3	70
Upton	253	6,490
Ward	49	3,140
Winkler	593	53,990
Total this week		235,394
Total last week		240,155
Decrease		4,761

RUNS THROUGH TRUNK LINES

Company, size and location—	Bbls.
Atlantic, 10-inch, Houston	29,497
Gulf, 10-inch, Ranger	43,394
Humble, 2 and 8-inch, San Angelo	32,137
Humble, 10 and 12-inch, Ingleside	38,968
Illinois, 2 and 8-inch, Del Rio	36,406
Magnolia, 8-inch, De Leon	20,770
Pasotex, 8-inch, El Paso	14,176
Shell, 10-inch, Healdton	39,138
Shell, 10-inch, Houston	23,958
Texas, 12-inch, Houston	25,224
Total	304,298

RUNS TO WEST TEXAS REFINERIES

Amarillo Ref. Co., Pyote	none
Big Spring Ref. Co., Big Spring	1,055
Burford Ref. Co., Pecos	4,082
Bluebonnet Ref. Co., Wickett	none
Cosden Ref. Co., Big Spring	none
Col-Tex Ref. Co., Colorado	7,000
Great Western Ref. Co., Big Spring	2,037
Humble Oil & Ref. Co., McCamey	none
Richardson Ref. Co., Big Spring	none
Tonkawa Ref. Co., Pyote	none
Wickett Ref. Co., Wickett	195
Total	14,369

TANK CAR SHIPMENTS

Big Lake from Texon	3,100
Fox and Thorsen from Mertzon	75
Thomas-Brann from Grant City	none
Regan County Pur. Co. from Hurdle	55
Southern C. O. Pur. Co. from Wickett	13,182
Total	16,412
Total daily average distribution	335,079
Total daily average production (including Lea County, N. Mex.)	273,754
Daily average from storage	61,325

Best Well Yet Drilled in Moore County

Flowed 1,000 Bbls. in First Nine Hours With 20,000,000 Feet of Gas. Area Much Split Up Into Small Leases

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Jan. 12.—The Sunray Oil Co. attracted attention to Moore County this week when its No. 1-A Jones in the SE cor. of the W half of the SW of Section 164, Block 3-T, T.&N.O. Survey, topped the lime pay at 3,359-71 feet and started flowing at the rate of 110 bbls. per hour, flowing 1,000 bbls. the first nine hours with 20,000,000 feet of gas. It is now shut in for storage. The Sunray Oil Co. is drilling another test, its No. 2 to the north of this well, on the same lease. It formerly junked its No. 1 test at a total depth of 3,010 feet before starting to drill its No. 1-A which came in this week for the best well ever drilled in the county, which is in the Panhandle district.

The Operators Oil Co. and Dana Oil & Gas Co., east of the above-named well, was the first producer drilled in this immediate area, which is absolutely wildcat. It made little better than 169 bbls. per day in May, 1930, and a south offset to this well, the Delmar Oil Co.'s No. 1 Jones, is making only 100 bbls. of oil and 100 bbls. of water per day.

The immediate area is considerably split up into smaller leases, various major and smaller companies holding them, and it is quite possible this area will become the most active in the district during the next few weeks, although the proximity of salt water to the oil pay makes drilling in of the wells a delicate proposition, and a well can easily be ruined if not handled with care.

Panhandle Completions

Out of the five wells completed in the Panhandle district during the week only one made any oil, and that the negligible amount of 5 bbls. with 3,000,000 feet of gas. This was the Huber Petroleum Co.'s No. 1 Cheatham in Hutchinson County. It was completed at a total depth of 3,115 feet, but was plugged back to 3,048 feet and shot with 40 quarts from 3,105-45 feet before completion. One gas well was completed in Potter County by the Texas Interstate Pipe Line Co. for an initial production of 6,000,000 feet of gas from 2,305-2,408 feet.

But few locations were made in the district this week, and although there were no flush producers completed to hold up production it showed a slight increase of 219 bbls. Approximately 90 per cent of the small wells in the district have been connected by various pipe line companies, and it would seem that all producers in the district will eventually receive connections for their wells, although some have had to wait a considerable length of time before receiving aid.

Wichita Falls Area

Many locations were staked in the Wichita Falls district during the week and completions showed an increase over the past few weeks, Archer and Young Counties being the two most active counties in the district, the former showing 8 completions, of which 7 were dry holes and the latter showing 16 completions, 11 being dry holes.

Production in the district showed the slight decrease of 243 bbls. per day.

A total of 16,564 bbls. was run to local refineries in the district at an average price of 29 cents per barrel below the market price. Of this amount 13,412 bbls. daily was sold at an average price of 38 cents per barrel under the market price, 1,438 bbls. went at an average of 29 cents per barrel under the market price and 1,714 bbls. sold at 20 cents per barrel under the market price.

The Pure Oil Pipe Line Co. has completed its 4-inch line from its Olney pump station to the Prairie Pipe Line Co.'s station at Orth, northern Young County, and has taken over the latter's gathering system from Orth and the Newcastle district, and is now making deliveries to the local refineries. This gives some relief in this area where Prairie was the main purchaser, and withdrew on the first of the year.

Another bit of help given to producers in this district came from the Magnolia Pipe Line Co. when it tied into 413 bbls. daily production which was formerly being run by the Dale Oil & Refining Co. The oil is being purchased at the market price.

Swenson Oil & Gas Co.'s deep test on the Swenson ranch in Throckmorton County is one of the deep tests of the Wichita Falls district which is down to a considerable depth, and which has had gas and oil showings. It is now drilling up underreamer lugs at a total depth of 5,964 feet. It had a showing of oil at 4,790-4,819 feet, another show of oil at 4,877 feet, tested a showing of gas at this depth and had a sand showing oil at 5,009 feet. It is located in Section C, D.B.&C. Survey No. 175.

Ranger District

The Ranger district as usual during the past several months was exceptionally quiet this week, with most of the completed tests being dry or temporarily abandoned. The only two producers in the district were gas wells, one being located in Brown County and the other in Coleman County.

Since the discovery of the Overall Pool, Coleman County, by Cheney, Anzac Oil Co. and Continental Oil Co.'s No. 1-C Overall in April, 1928, that pool has produced a grand total of 641,151 bbls. to the first of January.

COMPLETIONS FOR THE PANHANDLE DISTRICT

Gray County

Midwest Exploration Co.'s No. 1 Taylor, dry and abandoned, total depth 3,420 feet.

Hutchinson County

Huber Petroleum Co.'s No. 1 Cheatham, total depth 3,115 feet, plugged back to 3,048 feet, shot with 40 quarts from 3,015-45 feet, initial production 5 bbls. oil and 3,000,000 feet of gas. Mitchell and others' No. 1 Dunnaway, temporarily abandoned.

Potter County

Texas Interstate Pipe Line Co.'s No. 1 Rockwell, initial production 6,000,000 feet of gas from 2,305-2,408 feet, total depth 2,408 feet.

Wheeler County

Wischkamper and others' No. 1 Kiser, total depth 2,640 feet, plugged back to 2,020 feet, top pay 1,865-2,020 feet, initial production 5,000,000 feet of gas.

COMPLETIONS IN RANGER DISTRICT

Brown County

Paramount Oil Royalty Corp. and others' No. 1 McDonald, gas sand 1,140-80 feet, initial production 1,000,000 feet of gas, total depth 1,180 feet. Roberts and others' No. 1 Whitehead, temporarily abandoned, total depth 1,730 feet.

Callahan County

Beddingfield and others' No. 1 Henderson, dry and abandoned, total depth 470 feet.

Coleman County

Cant and others' No. 1 Lowe, dry and abandoned, total depth 1,955 feet. McGahay and Prairie Oil & Gas Co.'s No. 1 Thate Brothers, gas sand 1,501-04 feet, initial production 8,646,000 feet of gas, total depth 1,504 feet. Guffey Brothers and others' No. 2 Paggi Brothers, dry and abandoned, total depth 733 feet. McCamey and others' No. 1 McClure, temporarily abandoned, total depth 1,600 feet.

Palo Pinto County

Christee Brothers' No. 1 Allen and Ritchie, dry and abandoned, total depth 4,575 feet. Hutchinson Drilling Co.'s No. 1 Carter, temporarily abandoned location. L. Peter's No. 1 Riebe, dry and abandoned, total depth 4,010 feet. Guyer, trustee's No. 1 Dalton, temporarily abandoned location.

Shackelford County

Hays and others' No. 1 Clausell estate, dry and abandoned, total depth 843 feet. Hyde and James' No. 1 Morris and Beire, temporarily abandoned location. Lynch and others' No. 1 Lynch, dry and abandoned, total depth 603 feet.

Stephens County

Huber and others' No. 1 Morton, temporarily abandoned location.

NORTH TEXAS PRODUCTION
Week Ended January 10, 1931

Panhandle district—	Bbls.
Carson County	3,995
Hutchinson County	8,100
Gray County	41,550
Moore County	279
Potter County	0
Wheeler County	335
Total this week	54,259
Total last week	54,040
Increase	219
Wichita Falls district—	
Archer County	11,915
Baylor County	929
Clay County	714
Cooke County	1,979
Foard County	81
Jack County	1,434
Haskell County	31
Montague County	4,163
Throckmorton County	476
Wilbarger County	13,748
Wichita County	20,368
Young County	11,017
Total this week	66,855
Total last week	67,098
Decrease	243
Ranger district—	
Brown County	4,596
Callahan County	2,715
Coleman County	2,312
Comanche County	1,002
Palo Pinto County	370
Eastland County	3,422
Shackelford County	4,839
Stephens County	4,696
Total this week	23,952
Total last week	24,105
Decrease	153

COMPLETIONS IN NORTH CENTRAL TEXAS

Archer County

Frank Hutcherson's No. 1 Hilderbrand, top pay 1,151 feet, initial production 30 bbls. oil and 20 bbls. of water, total depth 1,164 feet. Shappell Oil Co.'s No. 4 E. Wallace, dry and abandoned, total depth 1,842 feet. Underwood Drilling Co.'s No. 1 Mangold, temporarily abandoned. Fraser and King's No. 1 King, dry and abandoned, total depth 1,825 feet. H. P. Key's No. 1 Andrews, dry and abandoned, total depth 925 feet. Marr and others' No. 1 Andrews, dry and abandoned, total depth 1,160 feet. A. P. Nicholson's No. 1 Speer, dry and abandoned, total depth 760 feet. Wheeler and Brashear's No. 1 Benson Brothers, dry and abandoned, total depth 932 feet.

Throckmorton County

Harris and others' No. 1 Keeter, dry and abandoned, total depth 1,307 feet.

(Continued on Page 180)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending January 12

Company, well, farm name, section and block—	Remarks—
CARSON COUNTY	
Empire G. & P. Co.'s No. 1 Jordan et al, C SE, Sec. 94, Blk. 4, I.&G.N. Sur.	T.D. 2,254 ft; set 8-in. csg.
Interstate Prod. Co.'s No. 1 Burnett, C SE, Sec. 100, Blk. 4, I.&G.N. Sur.	Location.
Krebs & Barnard's No. 1 Barnard, 660 ft. S and W, NW, Sec. 24, Blk. 4, I.&G.N. Sur.	Drlg. 2,385 ft.
Plains Holding Co.'s No. 1 Kalka, C NE NE, Sec. 43, Blk. 4, I.&G.N. Sur.	Drlg. 2,300 ft.
Interstate Prod. Co.'s No. 1 McConnell, C SE SW, Sec. 65, Blk. 4, I.&G.N. Sur.	Drlg. 2,440 ft.
Magnolia Pet. Co.'s No. 1 Burnett, 330 ft. N and W, W½ NW, Sec. 101, Blk. 4, I.&G.N. Sur.	T.D. 3,040 ft; T.P. 2,988 ft; 1,500 ft. oil in hole; C.O.
North American O. & G. Co.'s No. 1 Polling, 1,320 ft. N, 1,500 ft. E, Sec. 24, Blk. Y-3, T.T.R.R. Sur.	Drlg. 2,040 ft.
Plains Holding Co.'s No. 1 M. P. Co. fee, C N½ NW SW, Sec. 40, Blk. 4, I.&G.N. Sur.	Rig on ground (rotary).
Ryan Cons. Oil Co.'s No. 1 Jordan-Brown, C N½ E½ NE, Sec. 33, Blk. 4, I.&G.N. Sur.	Drlg. 2,300 ft.
Texas Interstate P. L. Co.'s No. 1 Burnett, C S½ SE, Sec. 81, Blk. 5, I.&G.N. Sur.	Location.
Texas Interstate P. L. Co.'s No. 1 Burnett, C E½ SE, Sec. 51, Blk. 5, I.&G.N. Sur.	Cellar.
CHILDRESS COUNTY	
C. L. Sloane et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands	T.D. 5,000 ft.
COLLINGSWORTH COUNTY	
Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec. 102, Blk. 21, H.&G.N. Sur.	C.O. 525 ft.
COTTLE COUNTY	
Darby Oil Co. and Merry Bros. & Perrini's No. 1 Richards, 330 ft. NE, Sec. 13, B.S.&F. Sur.	Cable tools; contract 5,000 ft; drlg. 930 ft.
GRAY COUNTY	
Adams, Prince et al's No. 1 Morse, 330 ft. NE SE, Sec. 6, Blk. 26, H.&G.N. Sur.	Estimated 7,000,000 ft. gas 2,050 ft; drlg. 2,260 ft; estimated 17,000,000 ft. gas 2,245-60 ft.
British-American Oil Co. and Shell Pet. Corp.'s No. 1 Smith, 330 ft. S and E, NW, Sec. 133, Blk. 3, I.&G.N. Sur.	Location.
Beck's No. 1 Sullivan, 330 ft. N and E, W½ NW, Sec. 135, Blk. 3, I.&G.N. Sur.	Estimated 30,000,000 ft. gas 2,520-2,650 ft; 5,000,000 ft. gas 2,845-50 ft; C.O.; T.D. 2,920 ft.
Boyles et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur.	Spudded and S.D.
Brown et al's No. 1 Duncan, 330 ft. S and E, NW, Sec. 93, Blk. 3, I.&G.N. Sur.	S.D. 740 ft.
Cree & Hoover's No. 1 Cole, 330 ft. N and W, SW Sec. 105, Blk. 3, I.&G.N. Sur.	T.D. 3,253 ft; shot with 90 qts. 3,200-50 ft; swbd. 200 bbls. first 13 hrs; C.O. and swbng.
Danciger O. & R. Co.'s No. 1 Sullivan, 231 ft. N, 224 ft. W, of E 160 ac. of S 264 ac., N½, Sec. 136, Blk. 3, H.&G.N. Sur.	S.D. 2,383 ft. (correction on depth).
Danciger O. & R. Co.'s No. 1 Barrett, 231 ft. S, 330 ft. W, E½ of N 56 ac., Sec. 136, Blk. 3, I.&G.N. Sur.	Drlg. 2,303 ft.

(Continued on Page 143)

May Open First Pool in Gregg County

Test on East Side of Salt Basin and 12 Miles North of Bateman Well in Rusk County Cores 4 Feet of Saturated Sand

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Jan. 12.—A mass meeting is scheduled for the evening of January 15 at the Blackstone Hotel, Tyler, Tex., to discuss proration of East Central Texas producing counties, especially Rusk County, where the Joiner Pool and the lately discovered Bateman well are located. The meeting is slated to be a lively one as several civic organizations and many men have voiced their opinion against proration, and also due to the fact that the district, especially in the producing areas, is greatly cut up and owned by independent operators and small companies, the majority of whom are against prorating the areas. Representatives of the central proration committee, and possibly some official of the Railroad Commission will attend the meeting at Tyler to discuss the merits of proration, and why it should be applied to this new producing area in Rusk County.

Moncrief, Farrell and others' No. 1 Lathrop in the William Robinson Survey, Gregg County, approximately 12 miles north of the Bateman producer in northern Rusk County, cored 4 feet of saturated sand from 3,569-73 feet the night of January 12. It looks as if another pool would be opened on the east side of the salt basin and produce Gregg County's first pool. The well is running 61 feet higher than the Bateman discovery.

Another producer was added to the Joiner Pool this week. This is Tex-Lloyd Oil Co.'s No. 1 Camp, approximately one-fourth mile northwest of the Joiner discovery well. It is 150 feet from the south and east of a 5-acre tract in the Juan Ximenez Survey. Sandy shale was cored from 3,532-51 feet, and the first total depth was 3,567 feet. It was later deepened to 3,594 feet and flowed and swabbed 1,200 bbls. in 13 hours. This makes the sixth producer for the Joiner Pool, and the seventh producer in the county, including Bateman's No. 1 Lou Della Crim, 10 miles north of the Joiner Pool. The Panola Pipe Line Co. has connected with the Tex-Lloyd producer. This company is shipping crude from the field to Shreveport from a 17-car loading rack on the I.&G.N. Railroad branch that connects the town of Henderson with the main line of the railroad at Overton. This was the first loading rack built to serve the field. Since the Panola Pipe Line Co. constructed a 4-inch line from the field to this loading rack, the Inland Waterways Pipe Line Co. has also constructed a line into the pool, and constructed another loading rack near the same point and is shipping out crude to the Louisiana Oil & Refining Co.'s refinery at Shreveport, La.

Thirty-eight Operations

There are 38 operations in the Joiner Pool to date, with 14 wells drilling, 18 rigging up, 4 locations and two shut down. Six of those drilling are down below 2,000 feet.

One interesting location was made in the Bateman area this week. This location was staked by the Burton Drilling Co. on the E. P. S. Florey farm, 2,250 feet north and 150 feet west of the southeast corner of the farm, in the Peter Holmes Survey, approximately 2 miles northwest of the Bateman discovery well. Two other locations were staked to the south of the Bateman well, on two separate 50-acre tracts belonging to Mrs. W. R. Crim in the Robert E. Winn Survey. They are approximately 1 mile south of the new producer in line with the Joiner Pool, and will consequently be interesting tests in that direction.

Six other locations were made in Rusk County during the week, the majority being in the Joiner area. Thirteen locations were made in the Van Pool, showing Rusk County and Van Zandt County to be the most active in the State of Texas.

A 2,100-foot southwestern extension was made to the Van Pool, Van Zandt County, when Pure Oil Co.'s No. 1 J. M. Martin in the J. Stevenson Survey came in for an initial production of 574 bbls. through eleven-sixteenths inch choke at a total depth of 2,968 feet. This new well continues to pull the pool to the south and west.

Van Pool Proration

A request for an increase in the allowable of the Van Pool, due to come before the Railroad Commission January 10, has been postponed until the next general meeting at Austin. The next general hearing will be held around January 20 or 22. The current proration period in the Van Pool expires February 15, 1931. Potential production from 187 wells in the pool is 371,450 bbls. through eleven-sixteenths inch choke.

The allowable from the field remains at 27,500 bbls. The Humble Pipe Line Co. is running 10,000 bbls. through its new welded 10-inch line to Morgan Junction, La., and the Pure-Van Pipe Line Co. is running the remainder to Smiths Bluff through its 10-inch line from the pool.

In case the Humble Oil & Refining Co. closes for the Bateman well and properties in northern Rusk County it will no doubt connect this well with a line run from its Van-Louisiana line, for that main line is only about 11 miles due north of the Bateman well, and consequently is in an exceptionally strategic position to connect with the well, and take several thousand barrels per day from it as the 10-inch is running only to about one-fourth of its capacity. In case the Gulf Production Co. is a partner with Humble in the purchase of the Bateman properties, and desires to run the oil from the area it would only have to run a connecting line a few miles to the west to connect with its Oklahoma-Gulf Coast main line. This line would be still shorter than the line needed to connect with the Humble line to the north. The Gulf Production Co. and Humble Oil & Refining Co. are the two most logical purchasers of the well and properties due to their sister companies having nearby trunk lines, whereas if any other major company made the purchase it would have to ship the oil via tank car, or build a long pipe line to a market.

Pipe Line Runs

Following are the pipe line runs from the Van Pool, during the month of November, 1930:

	Bbls.
G. S. Anderson	5,378
Anderson & Fogelson	4,678
Broderick & Calvert	5,593
Humble Oil & Refining Co.	41,170
Pure Oil Co. (Van joint account)	494,059
Pure Oil Co. (Carroll district)	49,847
Shell Petroleum Corp.	14,882
The Texas Company	5,565
Total	821,172

Production in the Joiner Pool, Rusk County, was as follows for the month of December, 1930: Joiner's No. 3 Bradford (discovery well), 4,239 bbls. (31 days); Anderson and others' No. 1 Bradford (east of discovery), 242 bbls. (3 days); Foster, Deep Rock Oil Co. and others' No. 1 Ashby (1 mile west extension, and best well in field), 5,831 bbls. (10 days); H. L. Hunt's No. 1 Bradford (south of discovery well), 739 bbls. (14 days); Stroube & Stroube's No. 1 Frederick (north of discovery well), 2,194 bbls. (20 days); total, 13,245 bbls.

The field is now averaging 2,382 bbls. per day from five wells, and the latest completed well, Tex-Lloyd Oil Co.'s No. 1 Camp, will raise this total.

EAST CENTRAL TEXAS

Boggy Creek	2,930
Cedar Creek	45
Currie	285
Hill County	30
Mexia	3,729
Minerva	442
Nigger Creek	185
Powell	4,954
Richland	120
Rusk County	1,165
Thrall	35
Van	27,827
Wortham	590
Total East Central Texas	42,337
Week ending January 3	40,955
Increase	1,382

COMPLETIONS IN EAST CENTRAL TEXAS

Bowie County

Joe Burnham and others' No. 1 G. W. Burnett, dry and abandoned, total depth 3,150 feet.

Cass County

Phillips Petroleum Co.'s No. 1 J. R. Olds, dry and abandoned, total depth 4,100 feet.

Red River County

Lloyd Oil Co.'s No. 1 R. H. Mace, Pecan Gap 590-900 feet, dry and abandoned, total depth 3,538 feet.

Shelby County

Benedum & Trees' No. 1 Nona Mills Lumber Co., dry and abandoned, total depth 4,803 feet.

Smith County

Sun Oil Co.'s No. 1 B. McGehee, top Pecan Gap 3,766 feet, dry and abandoned, total depth 3,844 feet.

Van Zandt County

Humble Oil & Refining Co.'s No. 6 Ruth Starr Blake, top Pecan Gap 1,900-2,055 feet, top sand 2,547 feet, initial production 109 bbls. first hour, total depth 2,935 feet. Same company's No. 7 Ruth Starr Blake, Pecan Gap 1,755-1,940 feet, top sand 2,391 feet, initial production 90 bbls. first hour, total depth 2,888 feet. Pure Oil Co.'s No. 2 R. C. Crim, initial production 72 bbls. estimated through eleven-sixteenths-inch choke, total depth 2,954 feet. Same company's No. 1 J. M. Martin, initial production 574 bbls. through eleven-sixteenths-inch choke, total depth 2,968 feet.

EAST CENTRAL TEXAS WILDCATS

Week Ending January 12

DELTA COUNTY

Delta Development Co.'s No. 2 Hays Kinney, 300 ft. S of No. 1 Cooper, Townsite Sur. — Preparing to spud.

D. S. Hoods' No. 1 J. J. Balser, 185 ft. from S and 530 ft. W of Balser 40-ac. tract in SE cor. T. B. Laddin Sur. — Shut down 1,550 ft.; will test oil show.

Worthington and Stedman's No. 1 W. H. Dejehett, 150 ft. from S and 776 ft. from W of 52-ac. tract, E. Chick Sur. — Drlg. 1,321 ft.

FANNIN COUNTY

E. A. Parsons et al's No. 1 Morgan in the English Sur., 3 miles NE of Savoy — Shut down 3,435 ft.

E. M. Rogers' No. 1 McSwain, 300 ft. S and E of Michael Daly Sur. in Juan Telgado Sur., 1⅛ miles NE of Lomasco — Shut down 1,500 ft.

GREGG COUNTY

J. C. Ferrell's No. 1 J. K. Lathrop, 661 ft. from N and 1,194 ft. from W of 96-ac. tract, William Robinson Sur. — Cored 3,524-32 ft.

M. S. Hammond's No. 1 J. M. Hamby, 278 ft. from E line, 1,667 ft. S of Hamby 3,800-ac. tract, Martin Lant Sur. — Shut down 2,588 ft.

HENDERSON COUNTY

M. E. Ashburn et al's No. 1 T. E. Barry, center of Barry 59-ac. tract in A. York Sur. — Shut down 3,993 ft.

E. L. Chapman's No. 3 Cade, 1,560 ft. from N and 750 ft. W. J. B. Dorsey Sur. — Drlg. 3,346 ft.

Texas State Oil Co.'s No. 1 Skinner, 150 ft. from E and 150 ft. from S. J. Henshaw Sur. — Shut down 4,581 ft.

HUNT COUNTY

Mamie S. Hammond's No. 1 W. H. Adams, center of survey, W of Branson Sur., J. A. McFarland Sur. — Derrick blew down.

LIMESTONE COUNTY

Ben Segall & Hundall's No. 1 A. E. Smith, 750 ft. from E and 300 ft. from S, M. N. Miller Sur. — Spudding.

LAMAR COUNTY

Everett & Allen's No. 1 Guest, 250 ft. S and 2,046 ft. E of 100-ac. tract, L. Roberts Sur. — Shut down 664 ft.

NAVARRO COUNTY

Young et al's No. 1 Farmer, 700 ft. from S and 400 ft. from E of 110-ac. farm in Finley Sur. — Shut down 960 ft.

POLK COUNTY

Sunshine Oil Co.'s No. 1 J. A. Collins, 313 ft. from NE, 150 ft. from SE at right angles to line, A. Viesca Sur. — Shut down 3,350 ft.

RAINS COUNTY

Everett & Morrison's No. 1 Franklin, 640 ft. from S and E of 75-ac. tract in John Christian Sur., 6 miles SE of Emory — Spudded and shut down.

RED RIVER COUNTY

Buffington et al's No. 1 L. H. Moore, 160 ft. from S and 160 ft. from W of 100 acres, Daniel Cornelius Sur. — Drlg. 1,300 ft.

Droppleman and Bunely's No. 1 J. W. Cunningham, 250 ft. E and 250 ft. S of 180-ac. tract, S. B. Shi Sur. — Drlg. 1,800 ft.

Everett and Allen's No. 1 E. Howison, 225 ft. S, 185 ft. W of 79-ac. tract, William Humphreys Sur. — Location.

RUSK COUNTY

Alford et al's No. 1 W. L. Thrash, 1,103 ft. from N and 420 ft. from E of SE cor. of B. Smith Sur. — Derrick.

Akin & Rayzor's No. 1 Claude Ashby, 1,580 ft. E along N line of Ashby 119-ac. from NW cor., 600 ft. S at right angle to N line, Juan Ximenes Sur. — Rig up (rotary).

Anderson et al's No. 1 G. T. Moore, 600 ft. from E along S line of tract, Juan Ximenes Sur. — Derrick.

Anderson & Co.'s No. 1 Thompson, 150 ft. from N and 150 ft. from E, M. J. Prue Sur. — Location.

Nick Barbare's No. 1 J. T. Brown, 150 ft. from E and 150 ft. from S of N 36-ac. tract, M. J. Prue Sur. — Rig up.

Bateman et al's No. 1 Lois Della Crim, 3,088 ft. W along N line of survey of NE cor. and 400 ft. S at right angles to N line of survey, E. G. Sevier Sur. — Shut down 3,642 ft.; shut in; little gas leaking through connection.

(Continued on Page 146)

Pipe Line Construction News

MILLS EXPECTING PIPE LINE ORDERS SHORTLY

By B. E. V. Luty

PITTSBURGH, Pa., Jan. 12. — Some of the pipe line projects against which line pipe producers have furnished quotations in the last few weeks appear to be coming to a head, with chances of orders being placed within say the next two to four weeks. The projectors keep the details secret and in most cases pipe producers themselves do not know just how much tonnage will be involved in a given line, because prices are asked on various sizes and descriptions as there are alternative plans which the engineers must weigh against each other. Last year there was scarcely any line pipe buying until the latter part of March and there are plain prospects that the opening will be earlier this year. There has been almost no line pipe buying of any size for several months and deliveries on old orders were largely completed in November.

Reference was made last week to some large pipe producers entering more shipping orders in December than in November, quite contrary to the usual experience. Others report practically an even break between the two months, with an improvement already started this month. While there are increases in various lines the most marked is standard or merchant pipe, chiefly butt weld. Movement of seamless oil country goods is moderate, but there is some. Various specialties are doing a little better.

Pipe and tube mills are operating at a low rate, but there was a little picking up last week and there is more this week. There is no doubt that production in January as a whole will run well above that in December. Some business indeed was booked in December definitely dated for shipment after January 1.

Prices on standard pipe are perfectly firm, as they have been right along. The reduction of last April was a sort of voluntary affair, to put pipe in line with some steel commodities that had declined. The market had previously been steady and it has been steady since.

There was a time when pipe was one of the few steady lines in the steel market. Now the entire steel market is steady, being "stabilized," to use the expression now very prevalent. In the past few weeks the weak lines one by one have firmed up, in some cases by sellers recognizing as the market prices that had previously been called cut prices. The idea in such cases was that the only feasible way to advance prices was to get under them. There are hopes of prices being advanced in some lines for second quarter.

Usually a good test of the steel market in general is the sheet market, generally the weakest of all, most prone to price cutting. There is a little cutting now in some descriptions of sheets, but much less than there has been at any time in a year and a half or more, and less than there frequently has been in a period of very active demand. Nails constitute another line frequently or usually presenting irregularities, and they are now remarkably firm, at $1.90 to jobbers and $2 to retailers and carload consumers.

As to bars, shapes and plates, automatically so to speak, the market became 1.65 cents at the opening of this month. At the beginning of December the market had been 1.60 cents, subject to shading, whereupon it firmed up to 1.60 cents and producers announced a first quarter price of 1.65 cents. Meanwhile large buyers had an opportunity to cover for the quarter at 1.60 cents. In the last week makers of cold finished bars have made 2.10 cents their minimum. They had put out first quarter prices of 2 cents to 2.10 cents, according to tonnage.

The rate of steel ingot production was very low in the week of Christmas, largely on account of the holiday. The holiday of the following week was not a regular steel mill holiday but there was some idleness in the week due to year-end conditions, and some departments did not resume even last week, but production this week is expected to be at a fair going rate, better than best rate during December and well above the general average of that month. Seasonal increases are to be expected through March.

CONTINENTAL GAS LINE MAKES RAPID PROGRESS

The Construction work on the Continental Construction Co.'s 24-inch line from Omaha to Des Moines, Iowa, and east, is progressing at a rapid rate due to the open winter in that part of the country. If the weather stays open the contractors expect to complete the work on that section by March 1. The work is being done by Henry Lemons, Inc., pipe line contractors. The section was 143 miles long. This part of the line was considered by some to be one of the most difficult sections which will run from the Texas Panhandle, to Chicago, Ill. The project, which is a 24-inch gas line, is the largest ever attempted east of the Rocky Mountains and ranks with the largest ever laid in the country.

PIPE LINES TO BE SOLD

CHANUTE, Kans., Jan. 10.—Arrangements are being made here for sale of three natural gas pipe line and service companies, which have been thrown into receivership as a result of litigation in Neosho County District Court.

A court order has been issued for sale of the Parsons Pipe Line Corp., the St. Paul Gas Co., and the Savonburg Gas Co. W. E. Murphy of Chanute, receiver appointed by the court, said the date of the sale will be announced within a few weeks.

The receiver valued the property of the three companies at approximately $250,000. He estimated the amount of liabilities at approximately $150,000. The St. Paul and Parsons companies have been in operation about a year, while the Savonburg company has operated several years. The companies pipe gas from the eastern Neosho County Field for industrial and domestic use. Murphy said the companies have been producing a satisfactory monthly profit.

The court appointed the receiver after suit had been filed by Stockman and Fees, local pipe line contractors. Stockman and Fees hold a second mortgage on the Parsons Pipe Line Corp. and a first mortgage on property of the other two companies.

PROPOSED LINE TO SPOKANE

CASPER, Wyo., Jan. 10.—Jerome L. Drumheller, discoverer of the Cut Bank gas field in Glacier County, has filed a petition with the Idaho Public Utilities Commission to lay a pipe line across that State, serving certain towns and cities in Idaho and then extend the line into Washington and Spokane. This is in line with previous statements of Mr. Drumheller and associates that they intend to lay a pipe line from the Cut Bank Field to Spokane, Wash., and eventually extend the line to the Pacific Coast. The proposed line from Cut Bank to Spokane will cost in the neighborhood of $15,000,000 and in the petition to the Idaho authorities, Mr. Drumheller states that surveying for the line will start in the spring.

CONTINENTAL OIL LINE NEARING COMPLETION

The Continental Oil Co.'s new 8-inch oil line which extends from the main pipe line system near Tonkawa, in Noble County, Okla., to the Oklahoma City Field is expected to be completed by January 20. The construction work on the line started December 3, under the contract given to Truman & Smith of Eldorado, Kans., and was approximately 80 miles.

The new pipe line connects the company's leases in the Oklahoma City Field with its refinery at Ponca City. The present capacity of the line is 10,000 bbls. a day with only one pump station located at the Oklahoma City end of the line. It is believed the capacity of the line can be increased with additional pump stations. If the allowable production of the field is increased the company plans to start purchasing crude but at the present time it will handle only its own production from its lease in the south end of the field which is located in Cleveland County.

NEW KENTUCKY OIL LINE

HORSE CAVE, Ky., Jan. 12.—The Hart-Metcalf County Field with production of the shallow wells in the Legrande Pool is to get a better outlet, which to some extent has been taken by the Stoll Oil Refining Co., of Louisville, the oil being run through a line of this refining company to Horse Cave, from where the oil is shipped in tank cars to Louisville. Word is now that the Stoll Oil Refining Co. has a plan for laying an oil line from the Stoll plant at Louisville to Hart County. The Stoll company made an application several days ago for a franchise in Jefferson County for the new line, but the request was deferred until the next meeting of the fiscal court. It will be necessary to obtain a franchise from the fiscal court of each county through which the line would run after which rights of way would have to be obtained from the property owners. The plans have not developed to a point to warrant the company making a statement, according to William A. Stoll, secretary-treasurer of the Stoll Oil Refining Co.

OGDEN-POCATELLO LINE

CASPER, Wyo., Jan. 10.—The Wasatch Gas Co. of Utah has obtained a certificate of convenience and necessity from the public utilities commission of Utah to construct, maintain, and operate gas distribution plants in Boxelder and Cache Counties, Utah. The application was filed in connection with plans of the company to extend its lines from Ogden north as far as Poctaello, Ida., at a total estimated cost of $3,200,000. The applicants for the certificate were John McFadyen of Casper and L. B. Denning of Dallas, Tex. Construction work is expected to start early in April. The gas is being supplied from the Baxter Basin, Hiawatha Dome, and Clay Basin Fields.

OKLAHOMA CONTRACTING CORP.

Tom Jones, president of the Oklahoma Contracting Co., has announced that effective from January 1 this firm will be known as the Oklahoma Contracting Corp. As pipe line engineers and contractors, the Oklahoma Contracting Co. has been actively identified with pipe line construction work throughout the South and Middle West for a number of years. It recently completed the Ajax double 10-inch pipe line, and is at present working on the Panhandle-Eastern, formerly the Missouri-Kansas, 24-inch line. Offices of the Oklahoma Contracting Corp. are at Dallas, Tex., and Tulsa.

PROPOSED GAS LINE TO SUPPLY NASHVILLE

RUSSELLVILLE, Ky., Jan. 12.—The Kentucky Natural Gas Co. will begin laying a line from Russellville, Ky., to Nashville, Tenn., at an early date. The line beginning at Russellville is to run 3 miles east of Springfield, and 1 mile east of Ridgetop and cross the Dickerson Pike a mile north of Goodlettsville. From Goodlettsville it will proceed straight to Cumberland River Lock and Dam No. 1.

The mains will supply natural gas to Springfield, Gallatine, Goodlettsville and Nashville. It is not yet known what firm will distribute the gas in Nashville. Laying the mains will begin at once. The line is to be laid with either 12 or 8-inch pipe over a distance of approximately 40 miles between Russellville and Nashville. A pressure pump is to be placed at Russellville to force the gas through the Nashville line.

The securing of rights of way has practically been completed in Robertson and Sumner Counties. The company petitioned the Davidson County Court for the right to construct mains in the county along the county highways, and the court granted the petition. The company has not yet petitioned the city for the right to operate within the city of Nashville.

The Kentucky Natural Gas Co., a subsidiary of the Missouri-Kansas Pipe Line Co., is chartered under the laws of Delaware. It was granted the privilege of doing business in Tennessee June 23, 1930. The company is said to have an ample quantity of gas and the supply coming to Nashville will probably come from Metcalf County, Kentucky, when the line is first opened.

EASTERN WYOMING LINE

CASPER, Wyo., Jan. 10.—All parties concerned in the North Central Gas Co.'s petition to the Public Service Commission of Wyoming for a certificate of convenience and necessity to lay a gas pipe line to supply eastern Wyoming cities with natural gas from the Muskrat Field west of Casper, were given 20 days in which to file briefs. Objections to granting this certificate was presented by the Montana Power Co. and Frank England. A protest from Torrington, one of the cities to be served, was withdrawn during the hearing. J. M. McIntyre, vice president of the New York Oil Co., of which the North Central is a subsidiary, was present. The pipe line would serve the communities of Douglas, Glendo, Wheatland, Torrington, Lingle and Laramie.

TENNESSEE PIPE LINE

FAYETTEVILLE, Tenn., Jan. 12.—Lincoln County is to have natural gas according to advice, as the Lincoln County court on January 5 granted to the United Pipe Line Co. and the Fayetteville Natural Gas Co. the right to place pipes in or along the road from Fayetteville to the Smithland gas wells in the extreme eastern part of the county, near the Franklin County line, and only a short distance north of the Tennessee-Alabama state line.

NORTHWEST STATE UTILITIES

CASPER, Wyo., Jan. 10.—The Northwest State Utilities Co. has announced an extensive construction program for the year 1931, the manager of the Great Falls division of this firm, Mr. Jordan, stating that $3,000,000 will be spent for extensions of the system. This will bring the total expenditures of this company to $7,000,000 since the merger was completed.

Oil Complication in the Argentine

Government Participation, Hostile Propaganda and Changing Regime Make Lot of American Oil Man There Uncertain

By A. E. Bunge

Government or private development? That, in a word, is the question which has bobbed up at every turn in the story of petroleum in the Argentine. It began in this way.

Petroleum was first discovered in commercial quantities by employes of the national government who were searching for water. That was in 1907. And although the Mining Code of 1887 prohibited the government from exploiting mines, the national congress immediately reserved over 12,000 acres surrounding the discovery well in the Comodoro Rivadavia district for government development. The chief purpose of this was to supply the needs of the navy and state railroads.

It was not until 1919, after 12 years of more or less indifferent development, that an organic petroleum law, regulating exploration and development by private companies, was presented to congress. This proved to be a great stimulus to private capital, companies having the security that as long as they carried on serious development work they could count upon being given sufficient time in which to drill upon their concessions in order to obtain the final mining title.

Exploration Work

For the next few years an extensive series of geological studies and exploration work was carried on by various private companies at great expense. Including test wells, these organizations sunk something like $25,500,000 in development work up to the end of 1923 without success. However, it seemed then that inside of 8 or 10 years these efforts would have resulted in a supply sufficient to take care of the entire requirements of the country. Unfortunately, the further development of petroleum reserves was not to proceed unmolested.

In 1924 came an unexpected interruption in the government's policy of mineral development. In place of the liberal interpretation of the mining code which operators had been given to understand they could expect so long as they worked seriously and in good faith, there came into force a set of reserve decrees which did completely away with the safeguards previously given to private capital by governmental authorities.

Immense reserves were established by the government covering all lands in the national territories which might possibly contain petroleum, and in the majority of the provinces similar decrees were issued. The effect of this was to limit the field of private companies to the exploration of concessions then granted, thus confining them to areas entirely out of proportion to those on the expectation of which they had based their original investments. Coupled with time limits allowing an unreasonably short period in many cases for drilling, the result was the elimination of many private enterprises from the Comodoro Rivadavia and Neuquen districts.

Nationalization Program

Back of all this was a program of nationalization.

This term has been a familiar one in Mexico, Rumania, Russia and certain other countries in years past, and is generally interpreted in the sense of a campaign to prevent petroleum reserves from falling into foreign hands. A mask of easy patriotism permitted the development of this movement and its meaning was translated in many sections into the annihilation of the rights of foreigners to oil fields whose ownership had been legally acquired.

No more striking example exists of the results of nationalization than that of Mexico. According to the Mining Code of 1884, petroleum deposits underlying private lands in that country were not the property of the government. Acting in good faith, American and other foreign oil companies invested millions of dollars in development work with the result that in 1921 Mexican production reached some 200,000,000 bbls., second only to that of the United States.

The prize looked so rich that the government was unable to resist the temptation to reach out a hand and seize it. What they did was to kill the proverbial goose that lays the golden eggs. The Mining Code of 1884 was reversed, and the authorities inaugurated a policy of hostility toward private companies, creating impediments and conflicts that finally exhausted the patience of the oil men. The consequences were not long in coming. Production fell off rapidly, and the government saw with astonishment the income of the state treasury, which had been sustained principally by taxes contributed by the petroleum industry and the score of enterprises which followed in its wake, dwindle away before its eyes. Thousands of laborers were left without work as foreign companies pulled up stakes and migrated to the United States, Venezuela, Colombia, Peru and Ecuador, where they were better received. Last year Mexican production amounted to but 44,000,000 bbls.—less than a fourth of its total in 1921.

Federal Control

In Argentina nationalization takes on a somewhat different meaning. In a sense, petroleum deposits are already "nationalized," in that they are assigned by law to the nation or to the individual state, according to the location of the mines. Actually, the nationalization movement in the Argentine seeks the establishment of federal control over petroleum activities, even though the deposits may be located in provincial territory.

At first glance, this would seem to be a constitutional question and one about which private companies need hardly bother themselves. But the fact of the matter is that nationalization propagandists invariably involve private enterprises in their arguments, presenting companies financed by capital from the United States in the light of exponents of a crude and disturbing North American imperialism. The patriotic tone given the campaign, together with the fact that, in the beginning, it was directed by two army generals of great prestige, stirred up no little interest and excitement. So much so that the population was arbitrarily divided into two groups—the patriots, who favored nationalization, and the disloyal citizens, who did not.

This was the major issue in the great election struggle of 1928, with the leaders of the Irigoyenist party sounding the alarm that "Yankee imperialism" and the capital and industrial manpower emanating from that country were menacing Argentine independence.

Decline in Efficiency

As might have been foretold, the change in petroleum policy in 1923, which signalized the government's entry into the business, was followed by a deplorable decrease in efficiency. Production per well per day dropped from 75.5 bbls. in 1922 to 19.9 bbls. in 1929, and at the same time the quality fell off, the water content jumping from 3 per cent in 1922 to 30 per cent in 1928. In that year production amounted to only a fourth of the figure confidently set by the government when it commenced operations in 1923, nor did the output increase materially last year. The enormous income, and the surplus of $145,000,000 predicted by the end of 1928 have gone up in smoke.

It is an old story. The history of state industrial activities in all parts of the world has conclusively demonstrated that the disadvantages which accompany government industrial undertakings have been so great that they have caused those who pay the taxes—the so-called "shareholders of the government"—and even those who once defended the system to insist upon return to private industry.

The elimination of competition for the government does away with the incentive to greater efficiency and reduction of expenses. The best organized businesses are undoubtedly those headed by men who have reached their positions through experience and promotion. This can take place only in the unhampered atmosphere of competition. New methods and new ideas are the result of enterprising spirit and of individual initiative. On the other hand, in a business as uncertain as that of petroleum, the government cannot risk the money of its taxpayers. And it has

INTERESTING SIDELIGHTS

When a revolution breaks out in these days of international trade, there is far more at stake than whether a party in power shall be deposed. And when three successive upheavals—all successful—occur in contiguous countries within a comparatively few weeks, the effect is likely to be far-reaching.

American capital is heavily invested in the development of South American republics, much as European capital was in this country during its period of industrial growth—but with this difference. The nations south of the Caribbean are deeply jealous of their national resources, and while foreign capital has been encouraged to a certain extent in some cases, its operations are hedged with far more restrictions than we are accustomed to in the United States. The government is a constant factor in business there and politics is something to be reckoned with, the same as overhead and depreciation. Consequently, any changes in government are watched anxiously from North American board rooms.

The development of oil fields has always been a troublesome problem in South America. Unlike the United States which declares the landowner the possessor of everything under his feet to the center of the earth, the laws of South American countries give to the individual only the surface. The government owns the subsoil. And in this lies one of the chief difficulties of petroleum prospecting and exploitation.

The accompanying synopsis of a discussion by Alexander Bunge, professor of economics at the University of Buenos Aires and editor of the Economic Review, gives some interesting sidelights on this phase of the oil problem in Argentina. Professor Bunge is generally looked upon as the outstanding economist in that country and has acted as economic advisor to several South American governments.

PETROLEUM PROSPECTING IN BRAZIL HAS BEEN RESTRICTED THREE YEARS

By Dr. Fred W. Freise

For the past three years prospecting for oil has been restricted to the states of Para, S. Paulo, Parana, and Santa Catharina. Most of the work has been done by the Geological Service of Brazil, private investigators showing very little interest in these activities.

In the State of Para the municipalities of Itaituba and Monte Alegre were specially investigated. Near Bom Jardim, municipality of Itaituba, and in this very townsite five holes were drilled which respectively went down to 201.58, 69.22, 356.26, 327.17 and something over 80 meters. Stratigraphically all these holes revealed Tertiarian, Carboniferous, Devonian and Silurian strata well defined by their fossils, conglomerates indicating discordances which disturbed at several places the progress of the drilling. Only one hole brought up gas from the Devonian strata, a few impregnations identified as oil being found in the Carboniferous region. In the municipality of Monte Alegre four drills were worked, getting to a depth respectively of 154.64 86.52, 59.87 and 93.37 meters. Since all these drills were worked by unskilled men, the results and the progress were very deficient.

In the State of S. Paulo the drill working was circumscribed to the municipalities of Sao Pedro, Piracicaba and Botucatu where two reciprocating and three rotative drills worked; 11 holes were drilled, one of them reaching down to 380.76 meters and stuck in an 11-meter thick Permian stratum at the bottom; here a small quantity of real oil was collected for scientific investigation; then work was called off. Another hole near Graminha went down to 469 meters piercing the whole Permian system; the yield was merely a slight amount of gas. Two more holes drilled respectively to 274.18 and 371.94 meters, were totally negative in their results, because the territory was stratigraphically very much disturbed.

At S. Antonio, Xarqueada, Alambary, and Bocaina several holes were started in 1928 and 1929, but their progress was exceedingly slow and no appreciable results were obtained. Most of the holes stand in the inferior Permian strata.

In the State of Parana four drills are at work, two of them placed at Marechal Mallet, reached 500 meters in depth and brought slight amounts of gas, the bottom strata belonging to the Iraty series—inferior Permian.

In the State of Santa Catharina two borings were made on the margin of the upper Iguassu River; they went to 471.20 and 514.93 meters, but their results as regards oil finding were nil.

Actually 25 drilling outfits, belonging to the Mineralogical and Geological Federal Service, are working throughout Brazil, but since only five of them are

(Continued on Page 104)

been shown time and again that the risk is a great one.

There is no better example of the heights to which competition-fostered initiative can carry private industry—with co-operation, but without interference from government authorities—than the United States. There, the petroleum industry is in the hands of some 16,000 or more competing companies, and none of them or any group of them has even a high percentage, let alone a predominating fraction, of the business. The result is aptly expressed in the fact that gasoline in the United States is, and has been for some years, the lowest priced commodity in general use.

The modern tendency is, without doubt, to get away from government monopolies. The result of the American government's experiment with the management of the country's railroads during the World War, even with the reasonable excuse of the abnormal conditions of the time, was such that the possibility of its being undertaken again has been eliminated for many generations. Nor was the result of British management particularly brilliant. The Italian government was forced to abandon its operation of railways, just as it was its life insurance monopoly. The telephone and telegraph system so efficiently managed in the United States in the hands of private companies is an eloquent contrast with the systems of various European countries which are government owned.

Companies Driven Out

The constant uncertainty and long series of obstacles which have accompanied the activities of the Argentine government in the petroleum business there has had the natural result of driving out of the country a number of oil companies who were unable to "stand the gaff," so to speak. With them has gone a large amount of potential revenue, employment, improvement and industrial activity. For it is an oftdemonstrated fact that private exploitation of an oil field brings with it an extensive program of road construction and improvement, employment for hundreds of native citizens, purchase of material and stimulation of activity in a dozen other industries, erection of schools and payment of taxes. Other South American republics have reaped the benefit of this friendly invasion of foreign capital, but Argentina has watched most of it go past her door.

In view of the mining code, which vests ownership and rights to petroleum in the national government or provinces, as the case may be, some form of national regulation is, of course, necessary in the Argentine. It is evident, however, that the state industry has been unable to satisfy the needs of the country. Nor has any other nation in the world been induced to adopt it except Soviet Russia and the Spanish dictatorship—and the latter produces no oil of its own.

Need for Supply

The one outstanding reason — aside from all questions of government versus private development as a principle—why Argentina should stimulate the petroleum industry within her borders and hasten the increase of her production, is that of avoiding the lamentable consequences of seeing herself deprived of fuel by some world-wide convulsion, such as happened from 1914 to 1918. It is essential for the national economic progress to assure a regular fuel supply for all purposes, as well as the stability of prices so important to the normal development of business.

Friends of the republic will hope, therefore, that future discussion and study of the national fuel problem be made scientifically and objectively, without mixing them with sentimental campaigns or politics, which have nothing to do with them.

The course of the new administration with regard to petroleum will be watched with close interest from both at home and abroad. It is to be hoped, in the light of past experience, that the petroleum problem in the Argentine has now ceased to be a political or a legal one, and that sound economics will be the guiding force in future policy and legislation on the subject.

DIFFERENT PRODUCTS PIPED IN SAME LINE

(Continued from Page 63)

input end of the centrifuge is not wasted, but is assimilated and stepped up.

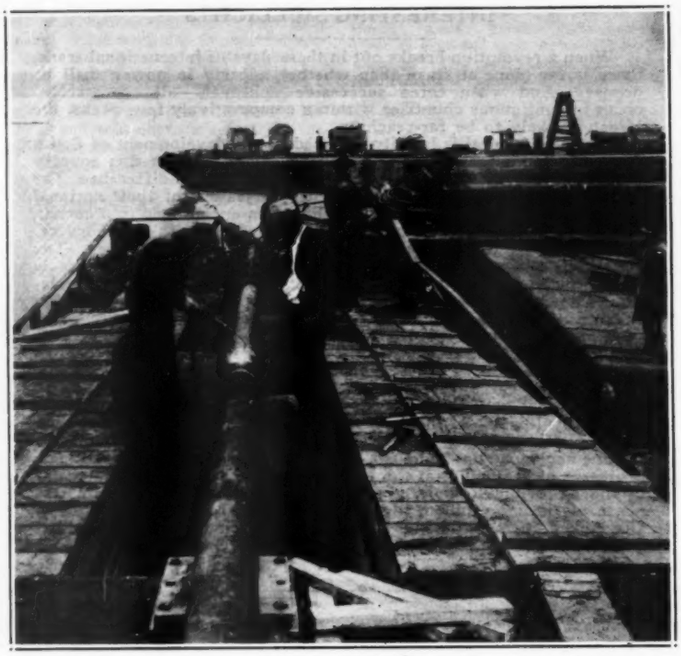
An interesting development for which the Phillips company deserves special credit, is the balanced arrangement of the pumping system which makes it possible to regulate the amount of flow by lessening or raising the speed of the engine, rather than by throttling the pumps. This, according to engineers, offers the advantage of a pressure curve which is lowered or raised in comparatively small amounts with a much greater variety of pressures to be obtained, whereas the method of lowering pressure by throttling the pumps not only wastes energy from the engine but also has the disadvantage of cutting down the work of the pump by nearly half in a single drop.

There are nine of these pumping stations on the line and the plans include specifications for six additional stations which will be constructed as the market expands. The present pumping sites are located near the following points: Borger, Tex.; Speermore, Okla.; Crystal Springs, Wichita, Aikman and Osawatomie, Kans.; Harrisonville and Jefferson City, Mo.; and East St. Louis, Ill.

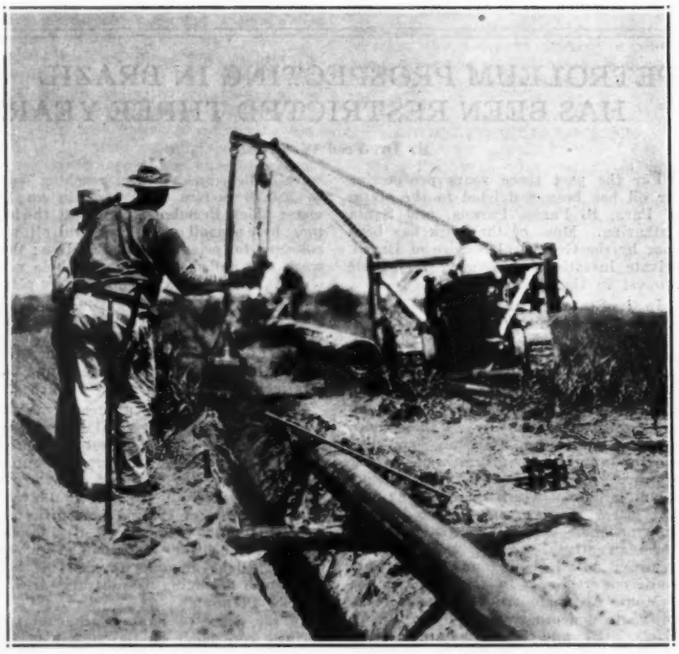
To fill the gasoline line the refinery at Borger and the natural gasoline plants operated by the Phillips company in the Panhandle area must pump in 232,000 bbls. of their products. Moving at the rate of approximately 3.5 miles an hour the products will travel for eight days before reaching the East St. Louis end. At Borger the skimming and cracking facilities have a daily capacity of 25,000 bbls., while the natural gasoline plants produce 10,000 bbls. of "butane free" gasoline used in making the company's different grades of Phillips "66," as well as the aviation gasoline, Phillips "77."

The dispatcher at Borger, who is in telephonic communication with each station, narrows down the possibility of intermingling of different liquids in the pipe line by so arranging his schedule that varied consignments shall not idle in the line, although the most that can be contaminated in any event, according to the engineers, is 600 bbls. At each bulk station a small fractionating apparatus will be used to make necessary corrections. With the exception of the butane the liquids as they issue from the pipe line are not finished products. At the bulk station, where ample storage facilities are provided, the blending is done for the various grades of Phillips company motor fuel in accordance with its "controlled volatility" schedule.

The present market terminals are located at Wichita, Kans.; Kansas City, Mo.; and East St. Louis, Ill. Trucks will be used to supply the intermediate points until the data complied in operations show where more bulk plants should be built. The river transportation facilities open at East St. Louis on the Mississippi and the Ohio Rivers, opens lanes extending as far north as Minneapolis and St. Paul, south to Memphis and New Orleans, east to Louisville, Cincinnati and Pittsburgh. The company already has more than 10,000 outlets in this territory.



This picture shows the laying of the 2,300-foot stretch of gasoline pipe line across the Mississippi River on the Phillips Petroleum Co. line from Borger to East St. Louis. The pipe bows up the river 500 feet and is anchored to the bottom by a closely spaced series of 1,250-pound river clamps. With the completion of each length of welded pipe a heavily anchored barge holding the line was nosed to the proper place in the river by a tugboat and then the pipe was dropped.



A precaution taken by the Phillips company against contamination of the petroleum products which will be sent through this pipe line is seen in this picture. In the end of the raised pipe may be seen one of the protectors with which every length of pipe shipped for the line was equipped. All of the pipe has been subjected to a pickling process and the entire 740-mile line is expected to be absolutely clean before the 232,000 barrels of fluid necessary to fill it are pumped in.

PROSPECTING IN BRAZIL RESTRICTED THREE YEARS

(Continued from Page 103)

fitted to reach more than 2,000 meters all efforts to obtain a real result seem totally lost. Since the first drillings were made, more than 15 years have elapsed, and strong opinions are heard that it is useless to hope for anything from these very slow and expensive works. It seems premature enough therefore that exactly at a time when such opinions backed by thoroughly competent authorities are voiced an oil bill is going to be discussed in the Chamber of Deputies. Based on the modified articles of the federal constitution—promulgated 1927—which preclude foreigners from the exploration "of such mines and mineral deposits which for the national defense and security are deemed necessary"—and under this heading the hypothetical oil deposits in the central states are classified, too—this bill hopes to interest national capital in the prospecting and exploring of oil and gas deposits. How far this may be possible can be measured by the very slight platonic interest which national industry and capital take in an exploration of the very important ore deposits f.i. in Minas and Bahia which are visible and about whose utilization a certain amount of actual experience has already been collected in former times.

SOUTH DAKOTA TEST

Gypsy Oil Co. has rig up on NE SW, Section 28-3n-16e, in Pennington County, South Dakota. It is not anticipated that work will be started on this test until spring.

JACKSON Service

NATURAL GASOLINE ABSORPTION PLANTS
REFINERY VAPOR RECOVERY PLANTS
SPECIAL PROCESSES ... ABSORPTION OIL RERUN PLANTS
DEBUTANIZING UNITS ... ... FRACTIONATING UNITS

• • • • • •

TURNKEY PLANTS OR EQUIPMENT ONLY
PROCESS ENGINEERING AND DESIGN

• • • • • •

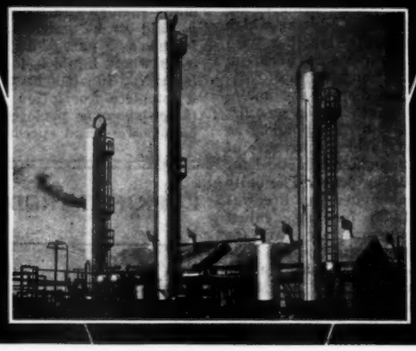
SPECIAL BUBBLE TOWERS ... ... ABSORBERS
COMBINED STILLS AND RECTIFIERS
PATENTED BUBBLE TRAYS ... ... SCRUBBERS
FIXED GAS ELIMINATORS

• • •

HEAT EXCHANGERS ... CONDENSERS
FLUID HEATERS ... ... FLUID COOLERS

• • •

FUEL PULVERIZERS
COOLING TOWERS



JACKSON
ENGINEERING
CORPORATION
TULSA, OKLAHOMA

NEW YORK DALLAS TULSA LOS ANGELES

Oil Industry Equipment and Supplies

BURKEY RODLESS PUMP ENGINE SAID TO EFFECT SAVINGS IN PRODUCTION

A new oil-well pumping device has been designed and is being developed by the Fluid Packed Pump Co. of Los Nietos, Calif., under the name of the Burkey rodless pump engine. This device, which it is believed will reduce the cost of pumping oil in many types of wells, has undergone several years of testing and experimenting by its builders and has been operated successfully under conditions of deep well pumping in the Signal Hill and other nearby California fields.

The Burkey pump engine is a gas-operated mechanism designed to actuate the

Installation of Burkey rodless pump engine at Sovereign Oil Corp. well in Signal Hill Field.

traveling valves in any type of working barrel, and is placed on the bottom of the tubing at the point where it is desired to pump the well. It is a reciprocating pump. The gas used for operation is injected in the annular channel between the casing and the tubing, a packer being set between the engine and the pump to keep any of the injected gas from reaching the formation. After the injected gas performs its function of operating the pump, it is exhausted into the fluid column in the tubing, helping to raise the fluid to the surface.

Besides the installation with the packer and engine above the perforations, there are several other variations of hook-up. Where it is desired, the engine may be operated by gas injected between the tubing and a string of macaroni, eliminating the use of a packer. In wells where the fluid level is below the perforations it is possible to use the packer installation by setting the packer above the perforation and running tubing and macaroni from there on down to the point from which it is desired to pump.

Fluid Expelled by Exhaust Gas

The fluid is lightened and expelled from the well by the exhaust gas from the engine, and from the engine to the surface it is a form of gas lift, but a definite volume of fluid is combined with a definite volume of gas. The ratio of gas to fluid will vary with the different size pumps used with a given size of engine, from a three to one to a five to one ratio by volume at the bottom of the hole. This volume is a constantly changing ratio, as the fluid column moves upward, the fluid maintains the same volume, but the gas increases in volume as the pressure drops. The delivery at the surface is in the form of a continuous spray.

The fluid is pumped on both the up and down strokes, being directly connected to the engine and taking in fluid from each end. The packer being set between engine and pump, no pressure is placed against the formation by the surface gas, and no pressure is built up below the packer due to the action of the pump in keeping this pressure pumped off. The ability to pump the pressure off from below the packer has resulted in an increase in production over that obtained on gas lift or natural flow, and the gas so pumped off has assisted in lessening the quantity of gas necessary to inject from the surface to elevate the fluid.

Ratios of injected gas from 300 to 500 cubic feet per barrel, and ratios of formation gas of about the same quantity have been obtained on tests with this engine. Gross gas-oil ratios on these tests have been about 800 cubic feet per barrel. The small quantity of injected gas used per barrel, and the fact that gas from an intermitter control is equally effective as a compressor continuously connected, enables the same volume of gas from a given compressor to operate more wells per unit than by ordinary gas lift or by chamber valve operation.

It is believed that this system will handle wells of all sizes, as the volume of gas injected will determine the number of strokes per minute which the engine operates, and the size of the connected pump determines the quantity of fluid pumped per stroke. Any well from the smallest to 4,000 bbls. per day is possible of operation with a proper selection of the pump and engine for the job.

Performance Records

The most accurate record yet kept of the performance of the new pump engine is one of the installation in the Sovereign Oil Corp.'s well No. 1 in the Signal Hill Field, shown in the accompanying picture. Figures compiled from the production reports of the corporation furnish the basis of the following averages which were figured for the month prior to installation of the new device during which the well was on gas lift, together with averages from the first month after installation of the new pump engine.

The average injected pressure maintained during the month under gas lift was from 260 pounds to 385 pounds, as against the necessary average pressure of 173 pounds to 208 pounds, maintained for operation of the Burkey pump. The daily average injected gas under gas lift was approximately 391,000 feet as against 161,000 feet daily average, necessary for the operation of the Burkey pump. This shows a saving in injected gas of about 230,000 feet per day.

It is seen that a great saving in gas is to be realized by the use of the new device. Saving in production cost per barrel on this well during the 30 days the new pump was in operation was stated to be approximately 30 cents, or a reduction from 45 cents per barrel under gas lift to 15 cents per barrel by the new method. In addition to this saving, the potential production of this well was increased by the use of the new pump to the point that warranted an increase in the allowable production under proration rules. The increase was from 60 bbls. per day to the new allowable of 75 bbls. per day.

INSTALL COATING MACHINERY

The Hill, Hubbell & Co. division of the General Paint Corp. has installed machinery for the application of protective coatings to pipe in the Jones & Laughlin Steel Corp. plant in Aliquippa, Pa. The installation was made originally to millwrap the 94 miles of 10-inch seamless line pipe which the Humble Pipe Line Co. is laying from the Van Zandt County oil pool in Texas to Waskom, on the Texas-Louisiana line.

NOTES ABOUT TRADE LITERATURE

"Oil Well Cementing," a 48-page book prepared for distribution by the Owen Oil Well Cementing Co., Long Beach, Calif., describes the Owen method of cementing wells and contains also information, tables and graphs that make it of interest to every man in the producing branch of the petroleum industry.

The General Electric Co., Schenectady, N. Y., is sending out a 12-page illustrated book telling about its steam turbines.

The Caterpillar Tractor Co., Peoria, Ill., has issued an attractive 38-page booklet in colors describing its road-building machines.

"Gauging Fluid Levels Instantly, Safely, Automatically," is the title of a booklet being distributed by J. H. Bunnell & Co., Bunnell Building, New York, explaining the MacCreedy fluid level indicator system.

The Foxboro Co., Foxboro, Mass., maker of flow control instruments, has issued Bulletin No. 170 on automatic flow controllers. This 40-page bulletin covers the complete field of flow control. It also includes ratio flow control, liquid level control and flow control under high pressures.

"The Electric Dehydrator" is the title of a new house organ now being issued by the Petroleum Rectifying Co. of California to disseminate information relative to "cut" oil in general, and to the Petreco process of electrical dehydration in particular.

CHICAGO PUMP CO. HAS ADDITION TO ITS LINE

The Chicago Pump Co., Chicago, Ill., has added to its line a small, compact, direct-connected centrifugal pump designated as the N-Type. This new pump is close-coupled, of heavy, substantial construction. It requires a minimum of space and its operation is said to be unusually quiet. The N-Type pump has three-point suspension, will carry 200 pounds pressure on the suction, and can be had without water seal, and with outside or inside connected water seal.

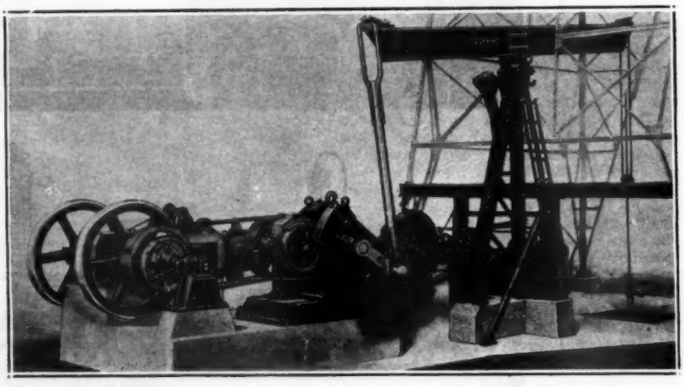
The N-Type pump is guaranteed for a 15-foot suction lift when furnished with a water seal. This small pump can be used for hot and cold water circulating, brine circulating, water supply, etc., and many factory and industrial services. It is said to be particularly well adapted for use as a part of and with other equipment where liquid is to be handled. Bulletin No. 108 has been prepared to give a complete description of the pump, with tables showing performance at different horsepowers and speeds.

NEW STEAM TURBINE IS PLACED ON THE MARKET

The General Electric Co. has announced another small, mechanical-drive steam turbine, designated Type D-58, for driving fans, pumps, and similar industrial equipment. The new turbine is designed for operation at steam pressures up to 250 pounds and speeds between 1,200 and 4,000 r.p.m., with capacities up to approximately 250 horsepower and is built only as a single-stage machine.

By limiting the range of conditions under which this turbine will be expected to operate it has been possible to decrease the length and width, making it a very compact unit with a saving in weight. The turbine is supported at the center line to permit expansion without affecting the shaft alignment. It is equipped with speed regulating and emergency governors and is fitted with carbon shaft packing. The pipe connections are made to the lower half of the turbine to facilitate opening for inspection.

LUFKIN INTRODUCES NEW UNIT FOR GAS ENGINE DRIVE



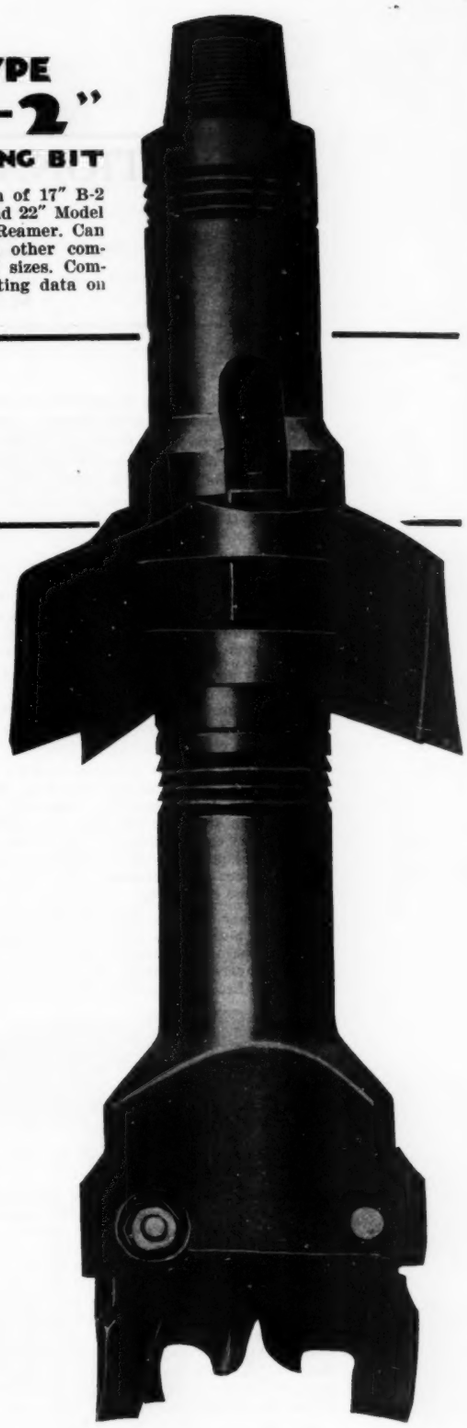
Designed particularly for use in connection with any type of single-cylinder engine the new Lufkin slide-base unit is mounted on a slide base which eliminates the use of a tightener. The unit is designed to set 10 inches to the rear of its usual center (10 inches behind plumb line of pitman), which results in a slight advantage in power due to less angularity of pitman when the rods are coming out of the hole.

This type of drive affords a method for the salvage of many single-cylinder engines which were in general use with standard rigs before the advent of the Lufkin reduction gear for pumping, pulling and drilling. A request addressed to the Lufkin Foundry & Machine Co. at Lufkin, Tex., or any of its branches, will bring particulars concerning this new unit.

Noted the world over

TYPE "B-2" DRILLING BIT

Combination of 17" B-2 Pilot Bit and 22" Model 5 Drilling Reamer. Can be used in other combination of sizes. Complete operating data on request.



. . . for Consistent performance

Type "B-2" Cutter (End View)

THE Type "B-2" Drilling Bit shown here is the pioneer among all drag type bits. It is used in every oil field throughout the world, and is noted for its consistent performance —full gauge, straight hole — maximum footage without loss of gauge. Sizes 10½" to 27" inclusive can be used with the Model 5 Reamer in any combination of sizes, making the most efficient straight-hole-making tool known. For further particulars write for Bulletin No. 8-A.

Rips Straight Through the Earth

GLOBE OIL TOOLS CO.

LOS NIETOS, CALIFORNIA.

Successors to

H. C. Smith Manufacturing Co., Inc.; Wieman-Kammerer-Wright Co., Inc.; National Tool & Metals, Inc.

Branches:

Ventura, Calif. Bakersfield, Calif. Kettleman Hills, Calif. Taft, Calif.
Hobbs, New Mexico Oklahoma City, Okla.

NATIONAL AIROIL BURNER COMPANY

Established 1912 Incorporated 1917

SALESROOM AND OFFICES

1327 Girard Ave., PHILADELPHIA, PA.

FACTORY: Ninth and Thompson Streets

Manufacturers of Oil and Gas Burning Equipment

PRODUCTS:

Oil Burners and Gas Burners for every industrial purpose: Steam atomizing Burners, Motor-driven Rotary Burners, Low Pressure Air Burners, Gas Burners, Combination Gas and Oil Burners, Fuel Oil Pump Sets, Fuel Oil Strainers. Engineering advice, design and supervision of complete oil or gas burning systems for every industrial purpose.

STEAM ATOMIZING OIL BURNERS:

For Boilers, Stills, Dryers, Ceramic Kilns, and other furnaces where steam or compressed air is available: With this Burner the very lowest and cheapest grades of liquid fuel can be completely atomized and efficiently burned.

In many petroleum refineries the residuum used for fuel carries in suspension a large portion of solid carbon as well as considerable incombustible material. This Burner with special tip will handle such fuel without clogging, without constant readjustment and at high efficiency.

We recommend that steam be used for operating the Burners in power plants, stills and most furnaces, except in certain arid districts where water must be conserved. In boiler operation the consumption of steam will vary from .8% to 1.2% of steam generated. This corresponds to .1 to .15 lb. of steam per lb. of fuel. The low oil pressure (30 to 40 lbs.) and low oil temperature required insure an extremely low total steam consumption for pumping and atomizing.

The burner is of the internal atomizing type, having a chamber inside the burner into which oil and steam (in every case where steam is mentioned, compressed air may be substituted) are fed through separate channels, in which chamber the oil and steam are mixed before passing into the furnace.

Pat. Dec. 31, 1918; Dec. 12, 1922; April 15, 1924

Oil under low pressure enters the Burner at (A) and passes into a chamber (C), which entirely surrounds the steam nozzle (BD). The steam nozzle (BD) extends into and discharges the steam into a forward nozzle (NON). The oil passes from chamber (C) in an annular film into the same nozzle (NON). This nozzle (NON) forms a Venturi tube with its throat at (O), at which point the steam cuts its way through, and mixes with the oil. The oil and steam so mixed then pass to the front chamber (K), where they are churned into an emulsion. The discharge orifice (the tip of the Burner) through which the oil is fed from chamber (K) into the furnace is varied to give any flame shape desired, broad or narrow, long or short, flat, conical or round flame, as may be required for the purpose at hand.

The Burner will operate continuously without clogging and without need of cleaning and will consume every atom of the heaviest fuel. When used with our indicating control valves for regulating the oil and steam supply to the burner (see illustration) the fireman is able to obtain, without experimenting, any flame regulation desired and to tell at a glance whether all Burners are operating properly. These Burners will operate efficiently at any point between 10% and 150% of rated capacity, and will hold with absolute precision any flame regulation required.

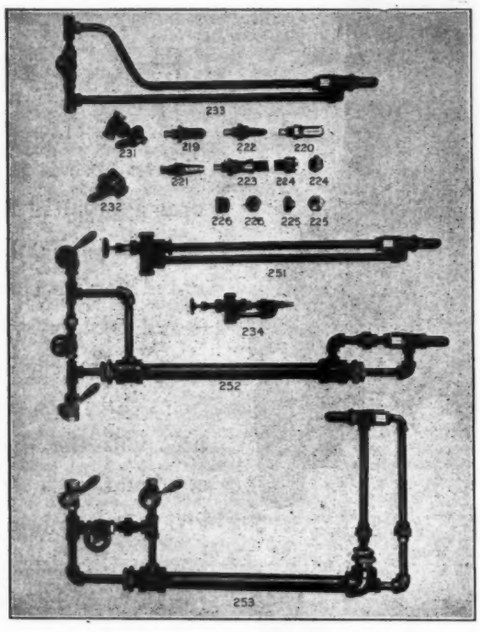
Capacity of Burners: National Airoil Burners for power plants are made in four regular sizes, and with flat, round and cone-flame tips.

Size No. 0, *rated* capacity 10 gals. of oil per hour.
Size No. 1, *rated* capacity 40 gals. of oil per hour.
Size No. 2, *rated* capacity 80 gals. of oil per hour.
Size No. 3, *rated* capacity 120 gals. of oil per hour.

All four sizes can be operated at wide variations from these rated capacities, atomizing efficiencies being exceptionally good between the limits of 10% and 150%. However, due to extreme differences in furnace shapes and resultant furnace volume, it is frequently advisable to install two or more burners of a smaller size rather than one of a larger size.

In power and heating plants, the flat-flame or conical-flame Burner is generally used, while in ceramic kilns, glass furnaces, rotary dryers and metal working plants, the round-flame is usually most adaptable.

Our locomotive Burner is similar to our power plant Burner, but pipe connections and rated capacities are different and are discussed in special bulletins.



DESCRIPTION:

Figure 219: Tip, for flat flame. All burners are made so that tips for various flames are easily interchangeable.

Figure 220: Tip, for short round or "cat-tail" flame.

Figure 221: Tip, for long round flame, for firing cement kilns, rotary dryers and other tunnel furnaces where long flame travel is desired.

Figure 222: Tip, for burning still residue and sludge, flat or round flame.

Figure 223: Tip, type "K," back part. Arranged so that front part (Fig. 224) may be extended to care for wall thickness.

Figure 224: Tip, for flat flame, type "K", front part.

Figure 225: Tip, for round flame, type "K", front part.

Figure 226: Tip, for cone flame, type "K", front part, made with 40°, 50° and 60° flame spread.

Figure 231: Steam Control Valve, for steam or air control, with indicator.

Figure 232: Firing Valve, for oil control, with indicator.

Figure 233: Burner, with standard fittings, ready for pipe connections for oil and steam (or air) and with by-pass for blowing fuel out of Burner before extinguishing fire.

Figure 234: Burner, size No. 0, with manifold by-pass cleaning valve, ready for oil and steam connections, made up to short length, with round flame tip.

Figure 251: Burner, same as Fig. 234, except size No. 2, showing relative sizes and with flat flame tip.

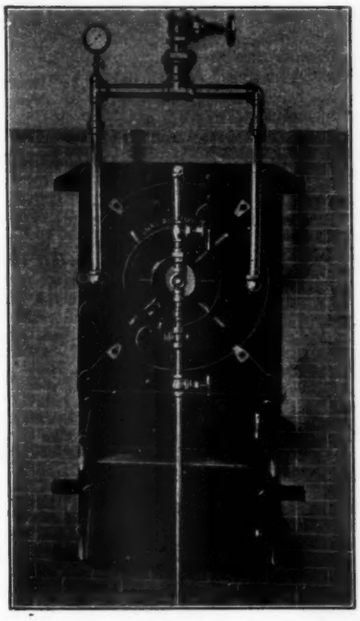
Figure 252: Burner, with front-fire, oil preheater fittings, and indicating Oil Firing and Steam Control valves.

Figure 253: Burner, for rear firing, with oil preheater, front-control fittings and with indicating Oil Firing and Steam Control valves. This type of fittings used for firing Stirling, Badenhausen, B. & W. and other vertically baffled boilers.

NATIONAL AIROIL BURNER COMPANY PHILADELPHIA, PA.

COMBINATION GAS AND OIL BURNERS:

National Airoil Combination Gas and Oil Burning Units are made in various capacities up to 12 million B.T.U.'S liberation per hour. Both oil and gas can be efficiently burned, separately or simultaneously. In the design details, emphasis is placed on the importance of thorough commingling of the gas or oil with only the requisite quantity of combustion air, as well as flexibility of operation with regard to capacity, flame characteristics and draft conditions.



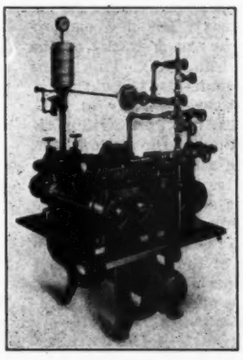
Either natural or forced draft can be used, and the poorest grades of oil or gas can be efficiently burned.

These Combination Burners are suitable for boilers, stills, retorts, rotary kilns, driers and various process furnaces.

Pipe and control valve arrangement can be varied to suit any requirement.

FUEL OIL PUMP SETS:

These steam-driven pump sets are designed for use in plants having 50 lb. or more steam pressure, for pumping fuel oil at constant pressure to all types of Burners; made with single or double pumps and single or double heaters, oil pressure governor, pressure relief valve, pulsometer, pressure gauge, two oil thermometers, lubricator and necessary shut-off and by-pass valves; a complete unit ready to connect to piping.



Size	Gallons per Hour, Each Pump	Boiler Horsepower, Each Pump
3 x 2 x 3	120	400
4 x 2½ x 4	200	650
4½ x 2½ x 4	240	800
5¼ x 3½ x 5	450	1500
6 x 4 x 6	675	2200
7½ x 5 x 6	1050	3500

The above are conservative ratings based on a piston speed of 8 to 12 ft. per minute and each size will deliver considerably more oil than stated by increasing the pump speed.

TYPE I-R ROTARY BURNER:

This Burner is ideal for firing heating boilers or other furnaces where steam or compressed air is not available for atomizing the oil. It will burn *without* heating any commercial fuel oil down to 20° (No. 5 fuel), and Bunker "C" Oil (No. 6 fuel) at a temperature of 150° F. Oil pressure required varies from 10 lbs. to 50 lbs. Air pressure required is from 8 oz. to 16 oz.

Controls: This Burner can be arranged either for manual operation (as shown) or semi-automatic (high-low) firing, varying oil and air through inter-connected control actuated by sylphon bellows or diaphragm, thereby maintaining steam pressure within desired limits.

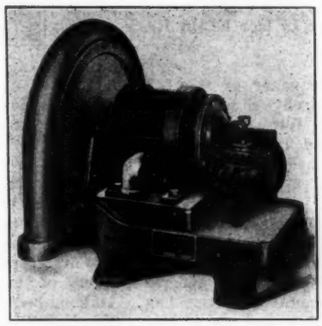
Capacity: This Burner is made in two nozzle sizes, as follows:

No.	Rated Capacity	Min. Cap.	Max. Cap.
1	15 gal. per hr.	5 g. p. hr.	20 g. p. hr.
2	30 gal. per hr.	8 g. p. hr.	40 g. p. hr.

These capacities vary somewhat depending on furnace dimensions, and it is frequently advisable to install two or more Burners in each furnace in order to secure greater flexibility and proper flame distribution.

PUMP AND BLOWER UNIT:

This Pump and Blower Unit is designed for use in operating our Type I-R Rotary Burners, our Foundry Burners, or any other low-pressure air Burners requiring from 8 oz. to 16 oz. air pressure, and from 25 lb. to 50 lbs. oil pressure.



Capacities: This unit is made in five sizes as follows:

No.	Capacity	Motor Size	Pump Capacity
3	1 I-R Rotary Burner	½ h.p.	70 g. p. hr.
4	2 I-R Rotary Burners	¾ h.p.	90 g. p. hr.
5	3 I-R Rotary Burners	1 h.p.	90 g. p. hr.
6	4 I-R Rotary Burners	1½ h.p.	150 g. p. hr.
7	6 I-R Rotary Burners	2 h.p.	150 g. p. hr.

Personal Paragraphs About Oil Men

James (Scotty) Miller, of the International Petroleum Company staff in Peru, is spending some months at his home in Sarnia, Ontario.

* * *

George Kroenlein, consulting geologist with headquarters at Del Rio, Tex., has returned from a trip to his home in St. Louis, Mo., and New Orleans, La.

* * *

R. D. Sprague, paleontologist for the Sinclair Oil & Gas Company, has been transferred from Tulsa to the Fort Worth, Tex., office. He is a graduate of the University of Nebraska.

* * *

Frank Oyster, of the firm of Oyster & Rife, San Antonio, Tex., was a Fort Worth visitor recently. Byron Rife, associated with Mr. Oyster, has been spending several weeks' vacation in California.

* * *

Joseph E. Pogue, consulting economist of New York, is in California studying the local situation preparatory to making a trip through the Texas and Mid-Continent areas before returning to New York.

* * *

J. W. Carnes, vice president of the Sinclair Consolidated Oil Corporation, in charge of marketing, has terminated a brief inspection of the company's offices at Fort Worth, Tex., and has returned to his home in New York.

* * *

W. E. Lockhart has been appointed receiver for the Inland Gas Corporation and the Kentucky Fuel Gas Company of Ashland, Ky. Mr. Lockhart was formerly treasurer for the Producers & Refiners Corporation under the administration of Frank E. Kistler.

* * *

George S. Norman, Louisiana division manager of the Sinclair Refining Company, has been named manager of the lubricating department and transferred to the Fort Worth, Tex., offices. He is succeeded at the New Orleans, La., office by A. D. Oden, of Houston, Tex.

* * *

H. R. Farnsworth, formerly petroleum engineer at the Taft, Calif., office of the United States Geological Survey, has moved to Tulsa and has taken over the district engineer's position in the survey formerly held by P. J. Hegwer who has been transferred to Casper, Wyo.

* * *

Charles J. Holland, consulting engineer, of Dallas, Tex., is leaving for Moscow under a year's engagement with the Russian government as advisor in sales and refining problems. This will be his second visit to Europe where he spent 18 months, in Rumania, Germany and France.

* * *

Dan Callahan, department manager of the Gilmore Oil Company, was struck by a hit-and-run driver in Los Angeles, Calif., a few days ago but notwithstanding that he suffered a compound fracture of the leg and extensive head injuries, he is well on the road to recovery.

* * *

H. Thompson, formerly general sales manager of the British Petroleum Company, Ltd., has been made general manager. C. H. S. Haygarth, formerly group manager, has succeeded Mr. Thompson as general sales manager. M. B. Davy, general manager, has been appointed assistant managing director with a seat on the board.

* * *

A Geological Luncheon Club has been formed at Midland, Tex., with Georges Vorbe, vice president of the West Texas Geological Society, as president; W. T. Hoey, vice president; and W. W. Irwin, secretary-treasurer. The following men are charter members: J. H. McClure, H. M. Bayer, E. Russell Lloyd, A. S. Donnelly, C. W. Hubman, W. C. Fritz, D. DeChicchis, H. S. Forgerson, R. M. Lavender, Fred S. Wright, John Emery Adams, S. A. Teasley, R. T. Cox, O. C. Harper, W. W. Irwin, W. T. Hoey, R. B. Mitchell, P. F. Brown, Georges Vorbe, Neal J. Bingham, H. R. Christner, A. P. Loskamp and W. W. Patrick.

Charles W. Ellison, of the geological department of Blackwell Oil & Gas Company, has moved his office from San Angelo, Tex., to Brownwood, Tex.

* * *

Frank Martin, purchasing agent for Missouri Valley Pipe Line Company, is now located at Omaha, Neb. He was formerly with the Lone Star Gas Company at Dallas, Tex.

* * *

Fred Norton, assistant to the president of the Gulf States Terminal & Transport Corporation, White Oak Refining Company and associated concerns, has moved to Tulsa from Chicago.

* * *

Denbigh Ellis, assistant export manager of the Associated Oil Company, after a visit to Los Angeles on business has returned to the home office in San Francisco accompanied by Donald McChesney.

* * *

Don J. Baize, formerly assistant superintendent of the H. F. Wilcox Oil & Gas Company Bristow refinery, has joined the staff of Radio Oil & Gas Company, Ltd., Winnipeg, Canada, as superintendent in charge of refinery operation.

Men of the Industry

W. K. Holmes

W. K. Holmes, recently elected vice president and manager of the refining department of The Texas Company of California, has spent practically his entire life in the refining industry. His first employment in a refinery was at the Acme works of the Standard Oil Company in Olean, N. Y. This plant is now operated by the Vacuum Oil Company.

Mr. Holmes joined The Texas Company in 1907, his first connection being with the Port Arthur refinery of the company. Starting at the bottom, Mr. Holmes became familiar with all phases of refinery processing. Later he was transferred to Dallas, Tex., where he was assistant superintendent of the company's refinery. After three years in this position he was transferred to Tulsa where for 10 years he was superintendent of the company's West Tulsa refinery. During his superintendency the plant was enlarged until it became one of the larger refining units of the company.

In 1925, Mr. Holmes was transferred to Port Arthur, where for five years he was superintendent of The Texas Company's largest refinery. In September of this year he became the executive head in charge of refining activities for The Texas Company of California with headquarters in Los Angeles. The company has three refineries in California, two of which are operating.

Will H. Fischer has been elected a vice president of the Southern California Edison Company in charge of public relations.

* * *

C. F. Van Loozen, district manager of Doheny Stone Drill Company, Houston, Tex., has returned from a vacation trip to Ohio.

* * *

A. W. Ambrose, manager of the oil division of the Empire Companies, was called to Stockton, Calif., by the death of his father, W. B. Ambrose.

* * *

M. A. Madden, of Elm Grove, W. Va., has been retired from the Natural Gas Company of West Virginia after a service of 44 years.

* * *

Alfred A. Foote, formerly engineer with Rycade Oil Corporation, Houston, Tex., has returned from a business trip through southern Louisiana and Mississippi.

* * *

Frank C. Hart, president of the Hartol Products Co., accompanied by Mrs. Hart, is now in London. He will visit several European points before returning home next month.

* * *

Dr. C. H. Lander, C.B.E., director of fuel research at the Department of Scientific and Industrial Research, has been appointed a member of the British Safety in Mines Research Board.

* * *

L. C. Quackenbush, general sales manager of the Tide Water Oil Co., is now on a European tour. He expects to spend the greater part of a two-month trip in England and France.

* * *

M. Frank Yount, president of the Yount Lee Oil Company, Beaumont, Tex., has been appointed by Governor R. S. Sterling of Texas as a member of the board of regents of the University of Texas.

* * *

Floyd Miller has resigned as geologist in charge of the land department for Reiter-Foster Oil Corporation, with which he has been connected for the past three years, to engage in business for himself.

* * *

Frank M. Anderson, state well inspector in the Mount Pleasant oil field, Central Michigan, was severely injured in an automobile accident west of Saginaw. He suffered severe lacerations of the head and body.

* * *

Arthur Iddings has been appointed general manager at Talara of the producing and refining operations in Peru of the International Petroleum Company, Ltd., in succession to G. W. Brake, who has retired.

* * *

H. W. Lockhart, of Long Beach, Calif., and his family, have arrived in Casper, Wyo., and will make that city their future home. Mr. Lockhart will be the new manager for Petroleum Rectifying Company in the Rocky Mountain region to succeed W. F. Van Loenen.

* * *

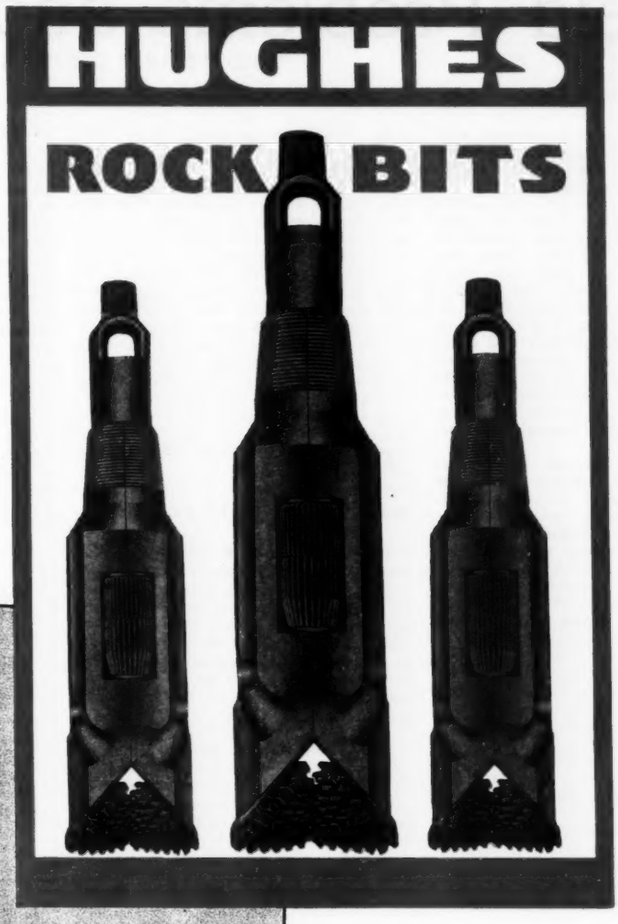
E. D. McCabe, Jr., who formerly maintained headquarters at Oklahoma City, Okla., for J. H. McEvoy & Company, has been transferred to Dallas, Tex., in order to work the new Henderson Field as well as the Van Field but will still cover the Oklahoma territory.

* * *

James P. Murray, foreman of Greenwood County, Kansas, operations for the oil production division, of the Empire Companies, has been made district foreman of the Eldorado Field. Mr. Murray is to succeed Charles I. Galloup who leaves to take a position under J. G. Dickinson at Amarillo, Tex.

* * *

Thomas H. Stephens, East Liverpool, Ohio, agent for the Manufacturers Light & Heat Company, has been appointed district manager with supervision over 19 eastern Ohio, western Pennsylvania and West Virginia communities. He will divide his time between the East Liverpool and Steubenville offices.



Leadership!

For the past 20 years Hughes Rock Bits and Cones have maintained a position of leadership throughout the industry due to economical and fast performance.

Sold by Supply Stores Everywhere

HUGHES TOOL COMPANY

Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.
Midland, Texas

Main Office and Plant
HOUSTON,
TEXAS

Export Offices
Woolworth Bldg.
New York City

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

DEEP WELL TEMPERATURES

I was interested in the question asked by F. E. E. in The Oil and Gas Journal of November 13 about why the temperature of crude oil drops as it rises from the reservoir sands to the surface. Has any record been kept of the temperatures found in oil wells, especially the deeper wells? What method is followed in obtaining temperatures?—D. S. I.

Acting under the direction of Director Charles N. Gould of the Oklahoma Geological Survey, but in the pay of the American Petroleum Institute, John A. McCutchin, research observer, has devoted the last two years to ascertaining and recording the temperatures of deep wells in Oklahoma.

A well in northern Pittsburg County produced the highest temperature found thus far. At a depth of 5,219 feet this well registered 192.6° F. The rate of increase in this well was 1° for each 40.2 feet, but the well was much deeper than any tested in Osage County.

In the deepest temperature test made, in the Sinclair well in Harper County, the reading was 166.8° F. at 7,625 feet. Due to caving at the bottom of the hole the total depth of the well, 8,590 feet, could not be tested.

Some of the variations found by McCutchin in different parts of the State are shown by the average rate of increase in the following: Eastern Osage County, 1° in 35.5 feet; northern Pittsburg County, 1° in 40.2 feet; Latimer County, 1° in 56.7 feet; LeFlore County, 1° in 51.2 feet; Oklahoma City, 1° in 107 feet; Harper County, 1° in 74.4 feet; Ottawa County, 1° in 120 feet; Healdton Field, 1° in 150 feet.

The Healdton Field in southern Oklahoma gave the lowest temperature increase with depth with 150 feet required to raise the reading 1°. In general the temperatures are found to be higher in the central part of oil fields than in the nonproducing areas nearby, McCutchin said. For that reason the very low temperature in the Healdton Field has been of great interest.

The purpose of collecting deep well temperature data in Oklahoma, according to Doctor Gould, is to determine whether there is any relation between temperatures and oil accumulation. Only wells which have been idle long enough to attain a normal temperature equilibrium are used in making the tests. Three thermometers are lowered into the well by means of a piano wire, the machine used for lowering and raising being equipped with a meter for recording the depth of the thermometers. The three thermometers are checked against each other for errors, and readings are taken at various depths from 100 feet to the bottom of the hole.

WHAT HORSEPOWER REQUIRED?

What horsepower is required to operate a 27-inch diameter by 16-inch stroke vacuum pump running at 200 r.p.m. with the intake pressure 10 inches of mercury and discharging at atmospheric pressure? Also what power would be required for this pump if the intake pressure were reduced to 20 inches of mercury and discharge at atmospheric pressure?—J. R. W.

While you do not state it in your question, it is assumed that this is a single-stage machine consisting of one cylinder, either belt or beam driven. This is a common type used in the oil fields to create a vacuum and is illustrated and described in the recently issued Bulletin 322, "Effect of Vacuum on Oil Wells," by the United States Bureau of Mines. The bulletin is recommended to you for general information on this problem.

On Page 111 of the bulletin there is a report of a test on a vacuum pump of the duplex single-stage belt-driven type giving the horsepower required to operate it at 200 r.p.m. and also at 150 r.p.m. The curve shows that the horsepower continues to increase as compression ratios decrease, a characteristic of this type of pump, and in this respect differing from compressors and low vacuum pumps, which show a decreasing horsepower as compression ratios become less than approximately 2.8 to 1. Such ratios are obtained between 1 and 19 inches of vacuum at the suction of the pump when the discharge pressure is atmospheric.

In the table on Page 112 it is shown that with an intake pressure of 10 inches of mercury, equal to an absolute pressure of 9.47 pounds per square inch, the power required is 30.8 brake horsepower per 1,000,000 cubic feet displacement per 24 hours, when operated at 200 r.p.m. (piston speed 400 feet per minute).

In a table on Page 113 giving data on vacuum pumps it is stated that a duplex belt-driven 27-inch diameter by 16-inch stroke cylinder, operated at 170 r.p.m., piston speed 453 feet per minute, displacement 3,596 cubic feet per minute or 5,180,000 cubic feet per 24 hours, is rated at 184 horsepower at peak intake and 5 pounds discharge pressure, or 35.5 horsepower per 1,000,000 cubic feet displacement.

A manufacturer's representative handling pumps of the type described by you stated that with 10 inches of vacuum it would require 72 horsepower and for 20 inches of vacuum 63 horsepower and if a duplex machine of the same size was used those figures should be multiplied by two to ascertain the horsepower.

As there are other conditions entering into this problem it is suggested that you get a copy of Bulletin 322 from the United States Government Printing Office, Washington, D. C.

PHOTOGRAPHING AN OIL DOME

Do you know of any successful experiments being made through photography in ascertaining the inside of an oil dome, its depth, length or other data that a photograph might bring to the surface? Would the dampness of the atmosphere blur the lens or would the prevalence of gas cause an explosion of an electric vacuumed light adequately protected with insulation against outside permeation? Do you know of any research publication dealing with this phase of the matter?—A. P. M.

There are patented and marketed a large number of bore-hole surveying instruments used in checking the course of wells and some of them incorporate the photograph principle in their design. You probably can obtain copies of the patents on these devices from the Patent Office in Washington, D. C., and this will give you accurate check on what has been done.

It is difficult to conceive of any possible way of exploring the inside of an oil dome by photography. Mapping the stratigraphy of an oil dome requires much accurate geological knowledge of the structure and how such data could be obtained by photography is not clear.

It is possible to take photographs at any position in the hole, but such pictures show only the condition of the walls of the hole at that particular point, and such pictures lack details necessary for thorough geological work.

There are no physical conditions apparent that would prevent taking pictures in dry holes, that is, holes prior to drilling into the oil, excepting in rotary holes that are full of mud.

Gas in a hole would hardly explode even if a spark were created in it because the proportions of gas to air are not right to make an explosive mixture. The gas would not burn under the conditions in which it is found in the well, so no reason is seen why light cannot be furnished from a storage battery. In fact several instruments employ electric storage batteries to operate their mechanism. Some of them have been described in The Oil and Gas Journal.

This department has no knowledge of any research publications dealing with this phase of the subject, but a bibliography on crooked holes literature which may be of assistance is being sent to you.

It is suggested that you first have a thorough search made of the patent office records for instruments of this kind that have been patented, for it seems probable that the general idea has been fully covered by patents.

Dr. Carl A. Heiland, professor of geophysics, Colorado School of Mines, Golden, Colo., is a recognized authority on geophysics and could undoubtedly give some good advice upon the application of this idea to practical field work.

WHY WAS IT CALLED THAT?

POLISHED ROD

The polished rod, which connects the upper end of the sucker rods in a pumping well with the stirrup at the end of the walking beam, gets its name from its bright and shining appearance gained by working through a stuffing box or gland in the control head on the well. Other rods receive the same name and all run packing glands and have a bright appearance.

PRIME MOVERS IN PUMPING

I wish to submit a question in regard to prime movers used in pumping equipment. I particularly refer to wells of 3,000 feet depth with an average of 500 to 1,000 bbls. of daily production. The specific question I wish to ask is this: Which is the more flexible, the gas engine or the electric motor with reference to pumping wells of the type I mention? In case an electric motor were set at the last point of low speed and the well was pumping 29 strokes per minute, what is the correct way to set the motor if 31 strokes per minute should be desired? It seems to me that the gas engine would be more flexible in this aspect, since the speed and the power can be increased or decreased simultaneously, thereby obtaining any particular number of strokes per minute on the pump. Is this presumption correct?—V. D. B.

There are a great many factors to be considered in selecting a prime mover for a pumping well and they vary over such a wide range that to make generalized statements that will apply to a particular problem is difficult.

In the November 13 issue of The Oil and Gas Journal was published an excellent paper by H. E. Dralle on "The Mechanics of Oil Well Pumping" and conclusions reached by Mr. Dralle may be of interest to you in connection with your problem.

Variable well reactions impose upon surface equipment heavy stresses that are magnified by prime movers with heavy inertias and reduced with prime movers of small inertias. The variable torque of single cylinder gas engines superimposes high peak stresses on surface equipment.

These facts should be kept in mind in considering you particular questions. It is believed you will find that speed is controlable over a wide range with a motor outfit through operation of the controller and that most outfits give as many different speeds as are obtainable with either gas or steam engines.

It therefore does not appear that speed control is an important factor in the selection of a prime mover for a pumping well and that cost of electric power as compared with gas, probable life of the installation, initial costs, etc., are more important than the factors you mention.

ABOUT DEHYDRATION PROCESS

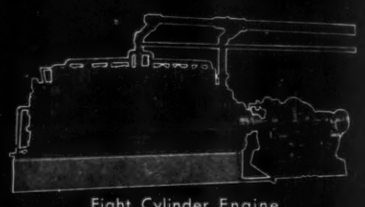
Two questions: First, what percentage of crude oil has to pass through a dehydration process? Second, what are the important existing processes and what is the cost of the treatment per barrel?—R. T. S.

It is virtually impossible to give direct, simple answers to your questions, for the study of oil field emulsions is a complicated one and there is no one process that will treat efficiently all kinds of emulsions. Accurate answers would depend largely upon the character of the mixtures to be handled.

Your first question is not quite clear. If you mean to ask what percentage of crude oil produced is treated by the dehydration process, it must be said in reply that no method of obtaining such information is apparent. Nor can it be stated what percentage of oil from any one lease would have to pass through a dehydration system, for the percentage would vary from well to well and from time to time in the same well.

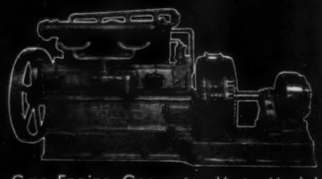
There is much the same difficulty in trying to answer your second question. This department is sending you a bibliography on this subject prepared by the technical department of the Tulsa Public Library. It covers only a part of the articles that have been written.

Dependable Enqines and Compressors *for* Every Oil Field Requirement

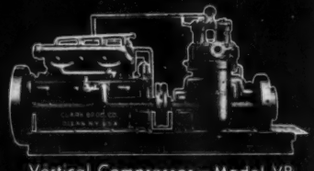


Eight Cylinder Engine with Froude Dynamometer attached.

40 H.P. Pumping Engine—Model PB40



Gas Engine Generator Unit—Model ES4G—75 K. V. A.



Vertical Compressor—Model VP

CLARK Engines and Compressors, both engine and motor driven, range from 40 H. P. Pumping Engine to which compressor cylinder can be attached without change in engine bedplate, to the supremely efficient 400 H. P. Double-Acting Super-Two-Cycle direct driven Compressor.

Each of these machines has been made notably efficient, accessible and durable by means of many vital improvements pioneered by Clark. Each has been designed to meet a practical need of today in the Petroleum Industry.

CLARK BROS. COMPANY

Olean, New York

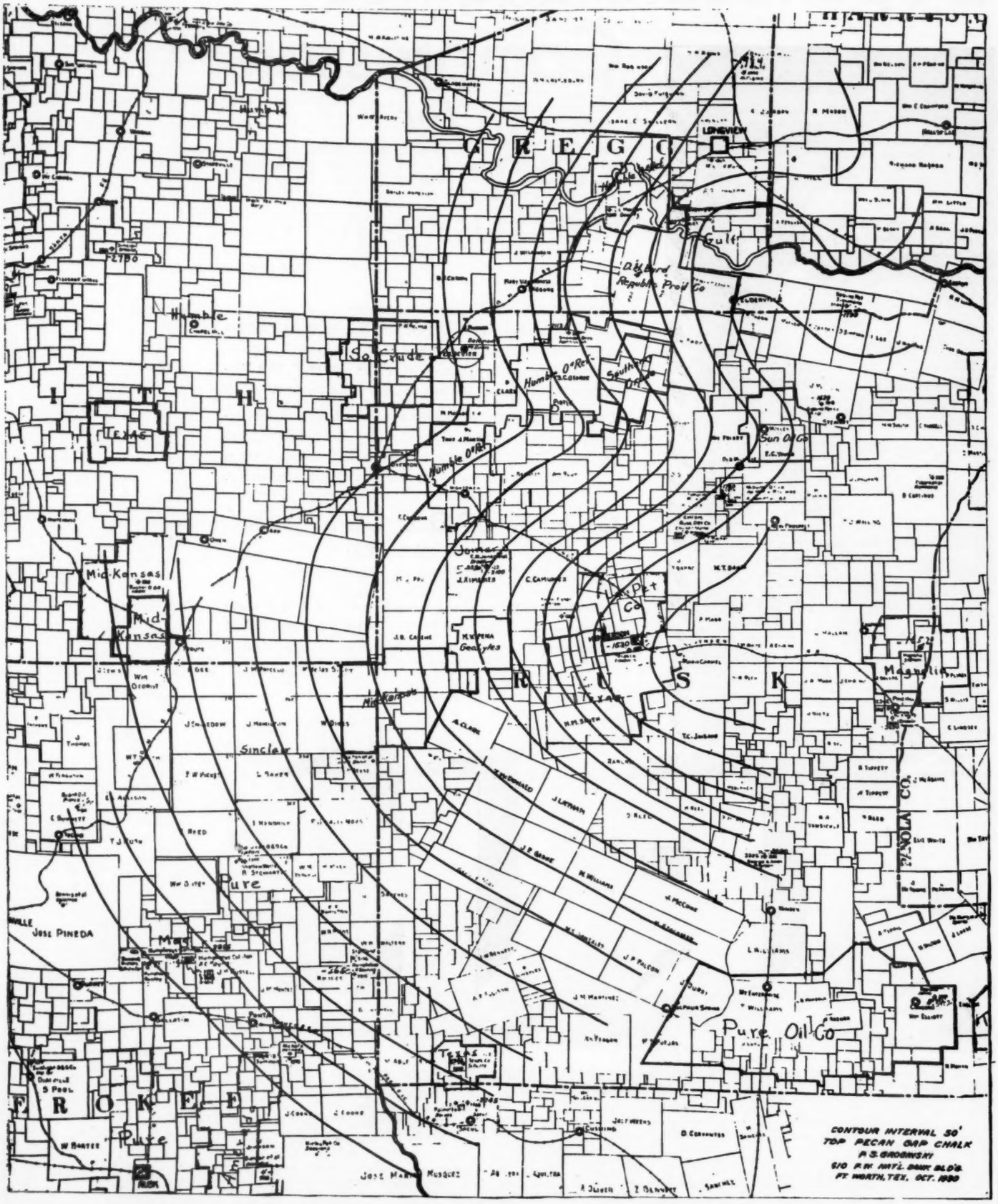
Export Office: 150 Broadway, New York City

Mid-Continent Sales Offices:
125 W. First St., Tulsa, Okla. 910 Bankers Mrtg. Bldg., Houston

Warehouses: Tulsa; McCamey and Sweetwater, Tex.; Artesia, N. M

California: Smith, Booth, Usher Co., 228 S. Central Ave., Los Angeles

Geological Map of New Pools in East Texas



Geological map by P. S. Groginski, Fort Worth, showing Joiner Pool and Bateman's discovery well in northern part of Rusk County. Mr. Groginski mapped this area, worked up the 1,500-acre block and made location for the test which has opened up the new Woodbine sand field in East Central Texas.

Caught While Scouting With The Journal's Cameras

1—W. T. Hancock, refinery engineer; L. C. DeHaite, pipe line superintendent, and H. D. Tupper, refinery superintendent, Hancock Oil Co. refinery, Long Beach, Calif. 2—J. C. Shaffer, independent operator, Tulsa, and Fred Hyer, independent operator, Fort Worth, Tex. 3—J. E. Fenex, superintendent of plant; H. E. Aliff, chief clerk, and W. M. Haynes, construction superintendent, Continental Oil Co., Denver, Colo. 4—Harold Moles, Tulsa, and W. E. Jack, Continental Oil Co., Ponca City, Okla., and Glenn Condon, Skelly Oil Co., Tulsa. 5—Left to right: J. P. Sharp, oiler; Sam L. Bell, superintendent of stations; J. L. Yetman, representing Dearborn Chemical Co.; Lestern Wilson, in charge of pressure and distribution, and Charles Thomason, chief engineer, Consolidated Gas & Utilities Corp., Enid, Okla

The Key

COMPACT

New design permits installation of about twice as much horsepower in a given space as compared with units of conventional design.

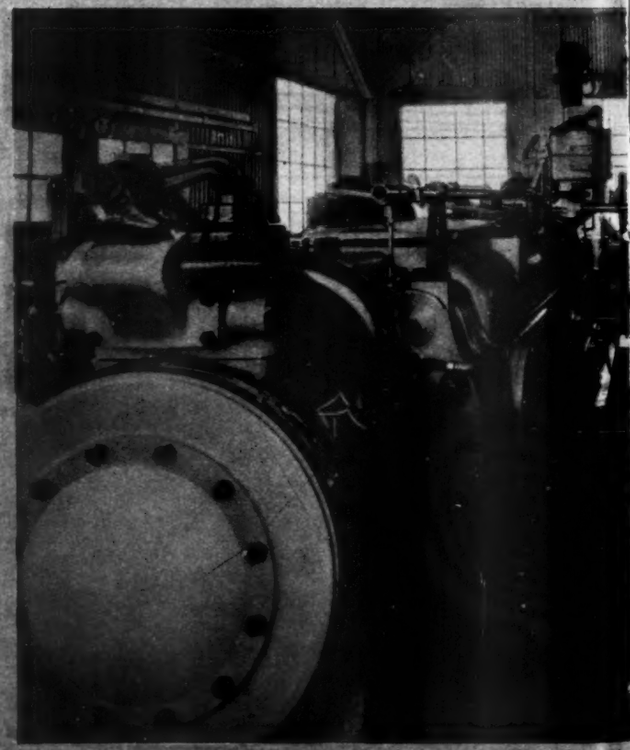
ACCESSIBLE

Low build and ease of reaching moving parts permits faster adjustment or replacement than with most compressor units of smaller horsepower.

LOW COSTS

Costs of housing, foundation, piping and installing are less than for other makes of compressor units with equal horsepower.

(Above) Sinclair Plant No. 17 in the Sasakwa, Oklahoma, field. New Type-40 (400 B. H. P.) and twelve Type-80's (170 B. H. P.)



The Cooper-Bessemer Corporation

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry. Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

ORIGIN OF THE GASOLINE TAX

Will you kindly tell me when and where the tax on gasoline originated? How many states now tax gasoline? What is the total sum collected in this manner? —A. P. B.

The subject of the history and development of the gasoline tax was discussed in a paper by H. B. Fuller, "The Motor Fuel Tax and Its Future," before the American Petroleum Institute, Chicago, December 4, 1929. The first few sentences of this paper are quoted:

"The most amazing phenomenon in the whole history of taxation has been the growth of the gasoline tax. Early in 1919 the people of Oregon initiated a tax of 1 cent a gallon on gasoline. During the same year North Dakota, New Mexico and Colorado also enacted gasoline tax laws, levying in each instance a tax of 1 cent per gallon."

The tax produced such a large return with so little effort, and without objection on the part of the taxpayer, that the attention of other states was attracted to this possible source of revenue. In 1921 the rate of 2 cents a gallon was introduced and by 1923 there were eight states collecting a 3-cent tax. The very rapid growth of the movement resulted in adoption of the tax in 46 states and the District of Columbia by 1927; and the tax varying from 2 to 5 cents a gallon. The tax was in force in all of the states by 1929.

The growth of the gasoline tax during the past 10 years, and an estimated return for the year 1930, is indicated in the table.

Year—	Number of automobiles	(*)	(†)	Total tax collected
1920 ..	7,500,000	4	1c	$4,700,000
1921 ..	9,200,000	13	2c	10,500,000
1922 ..	10,400,000	19	2c	13,100,000
1923 ..	12,200,000	25	3c	36,800,000
1924 ..	15,000,000	36	4c	79,700,000
1925 ..	17,500,000	44	5c	146,100,000
1926 ..	19,900,000	44	5c	187,600,000
1927 ..	22,000,000	46	5c	251,800,000
1928 ..	23,100,000	46	5c	305,200,000
1929 ..	24,500,000	48	6c	421,600,000
1930 ..	26,500,000	48	6c	525,000,000

*Number of states taxing gasoline. †Maximum tax per gallon.

The average tax is now approaching 4 cents. There are 10 states levying a 5-cent tax and 3 states collecting at the rate of 6 cents a gallon. According to the data collected by the United States Bureau of Public Roads, representing the returns for the first half of 1930, the largest sums were collected by the three States, Ohio, California, and Pennsylvania—$17,752,314, $16,242,492 and $15,952,587, equivalent to over $35,500,000, to $31,800,000 for each of these States for the year.

Recent figures show receipts for nine months of 1930 totaled $341,756,273, a gain of 14.105 per cent over the first nine months of 1929. California retained first place with $29,904,719. Ohio was second with $29,572,855. The increased rate lifted Texas into third place with $24,155,055, an increase of nearly $10,000,000.

SENSITIVITY COPPER STRIP TEST FOR SULPHUR

A question is raised as to how delicate is the copper strip test for sulphur in oil and petroleum products? Can you give an opinion or any data on this?—J. M. S.

The darkening of a polished strip of copper when a drop of the oil is placed upon it and permitted to remain for some time, or when the strip is immersed in the liquid and heated for a stipulated period, is considered to be a reliable test for free sulphur and hydrogen sulphide. It is not a test which has any reference to total sulphur because some forms of organic sulphur do not react with the copper.

The sensitivity of the copper strip toward free sulphur and hydrogen sulphide has been investigated by C. E. Waters, as reported in Technologic Paper 177, Bureau of Standards, page 8, 1920. The data following is from this source: A sample of white medicinal oil which did not darken copper and which was found to contain too little sulphur to detect by analysis, was selected for the base material. Recrystallized sulphur was dissolved in this oil in varying quantities and this series of solutions examined.

The strongest solution contained 0.10 free sulphur, and by suitable dilution liquids containing down to 0.0001 per cent, or one part in 1,000,000 were prepared. Two or three drops of the oil were placed on the freshly polished surface of the metal. Blank tests were made on the original oil at the same time to show any possible air contamination.

Concentrations of from 0.10 to 0.050 per cent caused a blackening of the copper in a few minutes; with 0.033 to 0.017 per cent sulphur perceptible color formed in 30 minutes, and with 0.01 per cent inside of an hour. When left for 20 hours, oil containing 0.0002 per cent of sulphur, or 2 to 1,000,000, caused a just perceptible darkening of the copper. At the final dilution, 0.0001 per cent, no action could be detected.

Similar tests with oil through which hydrogen sulphide had been passed for a few minutes showed that this oil caused an immediate darkening of the metal. This solution contained 0.037 per cent sulphur, equivalent to 0.039 per cent hydrogen sulphide.

Tests of solutions of greater dilution indicated that sulphur, in the form of hydrogen sulphide, may be detected by the sense of smell down to 0.0000037 per cent, but that the action on copper of a 0.000037 per cent sulphur solution at the end of 20 hours is doubtful. The sensitivity of the copper test for sulphur appears to be between 0.0002 and 0.0000[illegible] per cent sulphur, when the test is continued for 20 hours.

NATURAL GASOLINE ACCOUNTING SYSTEM

I will appreciate the favor if you will kindly advise a reliable book of accounting for absorption plant and the most up to date system for gasoline manufacture. —R. L. V.

The manufacture of natural gasoline is a separate branch of the petroleum industry which may be treated, for accounting purposes, in the same manner as if it were a single process unit in a complete refinery. The book on Accounting for the Petroleum Industry, by Morland and McKee, published by the McGraw-Hill Book Co., New York, suggests the following outline:

Raw Material.—The raw material is the casinghead gas obtained from oil-producing companies at their wells. The gas is purchased under contract, with a common provision that the residue gas be returned to the producing company, without charge. In this event the raw material cost is the original outlay for the gas; where the purchasing company retains the residue, selling it or using it for fuel, the raw material cost is represented by the original cost, less the sales value of the dry gas.

Classification of Accounts.—The expenses should be conveninently subdivided, first according to operations, as for example, compressors, stills, absorbers, etc., and then by the main elements of expense, as: Absorption medium; labor; fuel, steam and water; repairs; depreciation; other supplies and expense.

Such items as the absorption medium, and ammonia in the refrigeration system, may be considered to be working assets; these can be charged into operating costs either by prorating as exhausted, or by carrying the product in the system at a fixed figure and charging the cost of all renewals to expense.

Where a gasoline plant is operated as an adjunct of a refinery, the better plan is to treat it as a distinct entity and to bring the blend gasoline into the general refinery's stocks at production cost.

The selection of the type of plant will be influenced by local conditions. In a general way the compression system is economical for handling gas with a high gasoline content and the absorption system for gas containing relatively small quantities of gasoline. Frequently the two are combined. See Bulletins 120 and 151 of the United States Bureau of Mines. Recovery of Gasoline from Natural Gas, by Burrell, the Chemical Catalog Co., New York. Natural Gas Handbook, by Diehl, Metric Metal Works, Erie, Pa.

BRUCITE FOR REFINING

A mineral substance called brucite has been suggested as a neutralizing agent having some special advantages over caustic soda and lime. Can you tell me anything about this material and where it may be obtained?—D. G. A.

Brucite is a mineral that is found in various parts of the world, usually in small quantities of practically no commercial value. It is magnesium hydroxide, $Mg(OH)_2$, having a specific gravity of 2.39.

The discovery of a large deposit in Nevada has recently been announced. Plans are under way for the development of this deposit.

Magnesium hydroxide is an alkaline substance but not so strong as sodium hydroxide. It may find a place in the refining of gasoline and kerosene when mild treating is possible. The salts of magnesium are somewhat more soluble than the corresponding salts of sodium, and decidedly more soluble than the salts of calcium. There is one disadvantage in that the magnesium salts easily dissociate in the presence of water, and when salt water is present there is a tendency to form hydrochloric acid. This suggests that its use should be subject to exact chemical control.

When obtainable at a low cost brucite may have an advanatge over lime for control of sulphur during the distillation of the crude oil or in pressure stills. Very exact adjustment of the quantity to the character of the oil is necessary.

Another use for brucite in the refining industry is in the manufacture of high temperature refractories to be used as fire brick under stills and boilers. It is claimed that it will withstanding a temperature of 5,000° F. without showing any signs of fusion or disintegration.

If you will furnish complete mailing direction the required address will be mailed to you.

VISCOSITY ABSOLUTE AND SAYBOLT UNIVERSAL

Quite often we receive specifications on pumps for oil refineries giving us the viscosity in seconds Saybolt Universal and in other instances the viscosity is specified in centipoises. We wonder if you can furnish us with a conversion table from S.S.U. to centipoises and the reverse, or direct us to the publishers of such a table.—C. N. A.

Absolute viscosity may be defined as corresponding to the force required to move one square centimeter of plane surface at the rate of a centimeter a second relative to another parallel surface separated by a layer of liquid one centimeter thick. It is stated in poises; the poise being equivalent to one dyne second per square centimeter. The absolute viscosity of water at 68° F. is close to 0.01 poise and at 480° F. all oils have a viscosity equivalent to this.

The extreme care and time required for the determination of absolute viscosity renders the method impracticable in the petroleum industry. The common instrument, such as the Saybolt Universal, does not measure internal friction but the time of flow of a fixed quantity of oil under definite conditions. This is sufficient for all industrial purposes.

The ratio of viscosity in terms of Saybolt Universal to absolute centipoises is shown in the table.

CONVERSION OF SAYBOLT UNIVERSAL VISCOSITY TO ABSOLUTE CENTIPOISES

Saybolt Universal seconds	Absolute centipoises (assuming Sp. Gr. 0.900)
40.8	4.14
69.6	11.47
100.6	18.32
129.8	24.35
153.4	29.24
182.9	35.26
212.4	41.27
241.9	47.22
283.2	55.53
383.5	75.58
501.5	99.09
708.0	140.1
1,003.0	198.7
1,209.5	239.7
1,416.0	280.7
1,622.5	321.6
1,829.0	362.6
2,006.0	397.7
2,153.5	427.0
2,360.0	467.9

These data are from a conversion table showing Redwood, Engler, Saybolt and absolute viscosities by Harold Moore in the Oil and Colour Trades Journal, 8 Broadway, Ludgate, London. Copies of the complete table may be purchased for 2s each.

Wildcat Success in Vanderburg County

First Indication of Oil in County in Southwestern Part of Indiana, North of Niagara Field, in Kentucky

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Jan. 12.—In the old Lima Field of northwestern Ohio O. C. Barnaby and others' test on the John Fiegelist farm, Section 20, Eden Township, Seneca County, in the Tiffin Field, is reported to be showing some oil and may yet prove a commercial producer.

Hardin County reports two new gas wells; the Penn Oil & Gas Co.'s No. 2 Jonathan Oats farm, Section 5, Pleasants Township, and Barnaby and others' No. 7 Jacob Kurtz, Section 6, same township, with a volume of 350,000 feet at 1,354 feet. No. 8, same farm, is drilling. Martin Oil & Gas Co. is drilling No. 3 N. S. and W. Martin, Section 7, same township. The Kemrow Co. is drilling No. 1 R. E. Minter, same section.

In Allen County, Bath Township, C. C. Apple abandoned old No. 1 on the Sam Roeder farm, Section 21, and Ira B. Post and others did the same with No. 4 A. J. Plaugher farm, Section 6, Jackson Township, same county.

Harry Manion and others drilled a 2-bbl. pumper on the George Rable, Section 11, Noble Township, Auglaize County.

In Butler Township, Mercer County, A. A. Lauber's No. 1 J. A. Young farm, Section 20, pumped but 1 bbl.

Murphy and others are starting a test on the F. E. Chamberlain farm, Section 5, Tymochtee Township, Wyandot County.

CENTRAL OHIO

Fifteen completions were reported from the central Ohio fields, 3 producers with an initial of 14 bbls., 9 dry holes and 3 gas wells, and in new work starting there were 4 locations staked and 13 wells started spudding, a total of 17.

In Ashland County, Perry Township, D'Lano and others' No. 3 D. & E. Jacobs farm, Section 29, reported showing for 5 bbls. Clifford & Kolb are drilling No. 8 Ira Myers, same section. Farmer and others' second test on the Mitchell Stewart farm, Section 21, Lake Township, pumped but 1 bbl. from 685-725 feet. Robinson and others are drilling No. 3 Barbara Easley, Section 9, and Gold Crown Oil & Gas Co. is drilling No. 5 Harry Horn, Section 21, same township.

In Medina County, Chatham Township, Edson Co.'s No. 10 Marcus A. Frank farm, Lot 20, was dry from 414-48 feet. Same company's No. 22 A. W. Shaw farm, Lot 5, same township, pumped 8 bbls. initial from 285-336 feet. Same company is drilling No. 12 George W. Packard, and No. 11 Archie E. Packard, Lot 6. Oko Oil & Gas Co.'s No. 16 Henry Essig, Lot 3, is reported dry and in the same township. C. L. Williams and others are drilling No. 1 G. G. Chapman, Lot 7, same township. Barnhart and others found a dry hole in No. 1 T. R. Stine, Section 16, Homer Township, same county, there being no sand found.

In Wayne County, Chester Township, Faulkner and others' test on the A. Roman, Section 35, was dry from 500-23 feet.

In Summitt County, Green Township, East Ohio Gas Co.'s No. 1 L. S. Stark, Section 31, found a broken sand at from 3,992-4,004 feet.

In Licking County the Wehrle Gas Co. drilled a light gas well on the Charles Flory property, in the corporate limits of Newark, in Newark Township, from 2,358-85 feet. Same company is drilling on the John H. Edwards, in the third quarter Section of McKean Township, same county.

In Muskingum County, Blue Rock Township, S. S. Hulse drilled a dry hole in No. 1 John W. Mohler farm, Lots 16-21. Niagara lime was topped at 2,850 feet, then drilled to a total depth of 4,274 feet. The Atha Co. is drilling on the John T. Brown and others farm in the third quarter section of Washington Township. Same company drilled two dry holes in Wayne Township, same county; No. 1 George Heinele, Section 8, was dry at 2,937 feet and No. 1 T. P. Arnold, Section 1, dry at 4,200 feet.

In Tuscarawas County, Goshen Township, John Glass brought in an average gas well in No. 1 John V. Coventry heirs, Lots 17-22-29, at a total depth of 4,902 feet.

In Stark County, Jackson Township, East Ohio Gas Co.'s No. 1 F. K. Harris, Section 34, was dry at 4,412 feet, there oeing considerable broken sand.

In Belmont County, Somerset Township, A. C. Peters and others' No. 3 W. F. Lyne, Lots 21-26, is a fair gas well in the Berea sand at 1,820 feet. John Kirk and others are starting No. 1 on the C. W. Henderson, Section 22, same township.

INDIANA

The only completion reported from Indiana, was a wildcat drilled by the Vanderburg Oil Co. in the SW SE, Section 32, Vanderburg County, Center Township, which produced 7 bbls initial from 915-20 feet. This is the first indication of oil to be found in the county and in the southwestern part of the State and north of the Niagara Field which is in Henderson, Ky. Recently a small volume of gas was found north of Evansville, also in Vanderburg County.

KENTUCKY

But few completions were reported from any area of Kentucky. The eastern part of the State is developing some average gas wells along with dry holes. The Petroleum Exploration Co.'s No. 1 on the General Spurlock farm, and No. 1 on the Nancy Jane Craft farm, in the Manchester Field of Clay County, reported with a volume of 350,000 feet of gas for each well.

The Petroleum Exploration Co. drilled two dusters in the Hyden area of Leslie County, also in the eastern portion of the State, one being on the Lucy A. Nield and the other on the Begley Coal Co.'s land. Very little test work has been done in Leslie County, although it is in line with the gas producing areas of adjoining counties.

A gas well of good volume is reported drilled by the Missouri-Kansas Pipe Line Co. in No. 1 on the Richards farm, in the Kirkwood Springs area of Hopkins County, in western Kentucky, the gas being found at a comparatively shallow depth of 1,107 feet.

Mel Root and others' No. 1 on the C. E. Hicks farm, near Lind, in McLean County, proved a dry hole.

In the Niagara Pool of Henderson County, the Niagara Drilling Co.'s No. 4 W. C. Cooper farm, is reported good for 5 bbls.

Wood Oil Co.'s No. 1 Hendricks farm, in the Pellville Field of Hancock County, produced an initial of 20 bbls. C. O. White and others have a dry hole in No. 1 Hendricks farm, same field. Unknown parties are drilling in the same field on No. 1 Jennie Lone farm.

Niagara Drilling Co. is drilling No. 1 Melton heris farm, Niagara Field, in Henderson County. Pearson Petroleum Co. is drilling No. 2 R. T. Parker farm.

Ohio and Daviess Counties failed to report any new completions. These two counties have had the greatest development for the past three years and the shutdown inaugurated in December, 1929, still prevails, but it now appears that the early spring will bring about a renewal of operations. Lease conditions are such that some wells have to be drilled to keep the leases alive and the other wells that have been started are offsets which are also important as leases call for them.

No completions were reported from the Legrande Pool, in Hart, Barren or Metcalf Counties, as most of the wells had been shut down for the holidays.

Drought Slows Eastern Completions

Four Oil Producers With Total of 17 Bbls. Eleven Gas Wells and Five Dry Holes Week's Record

By Special Correspondent

PITTSBURGH, Pa., Jan. 12.—There were but four oil wells completed in the three districts and with an initial production of but 17 bbls. The total number of completions was unusually small due to many wells having been shut down for the holidays and due to a return of a widespread drought in the lower fields of Pennsylvania and West Virginia, where water is again being conserved for the use of many towns and cities which have been without adequate reserve since early last spring.

SOUTHEAST OHIO

All told there were about 20 wells completed in the lower Eastern Fields, 5 of which were dry holes and 11 were gas wells with the largest gassers in Southeast Ohio. The largest of these was in the SW, Section 1, Somerset Township, Belmont County, where the Central Gas Co. completed its second well on the D. L. Hagan farm in the Keener sand at a depth of 1,467 feet. It is estimated good for 1,500,000 feet a day. Close by and in the same quarter section, W. C. McBride, Inc., completed his No. 5 on the Bement and Howell lease in the Keener sand at 1,419 feet and it is showing for about 100,000 feet a day.

In Ashland County, the Gold Crown Oil & Gas Co. completed its No. 5 on the Harry Horn lease of 53 acres in Section 21, Lake Township, in the Berea sand at a depth of 651 feet and it will make about an 8-bbl. pumper. In the same township and Section 9, the Great Lakes Oil Co. drilled No. 6 on the C. I. Sellers farm in the Clinton sand at a depth of 2,920 feet and it is a dry hole. In Athens County, the Wittmer Oil & Gas Properties completed a second test on the Baird Brothers Co. tract in the SE, Section 23, York Township, which was also a dry hole in the Clinton sand at 3,380 feet.

In the pool in Section 13, Fallsbury Township, Licking County, the Hope Construction & Refining Co. completed No. 2 on the John Martin farm in the Clinton sand at 3,094 feet and it is a gas well showing for about 250,000 feet a day. In Medina County, E. R. Edson & Co. continued their shallow sand operations with No. 18 on the W. A. Shaw farm, Lot 5, Section 10, Chatham Township. It made 4 bbls. the first day after shot in the sand at 357 feet. In the NE, Section 13, Wayne Township, Muskingum County, the Atha Oil Co. completed a test on the Fred Arnold farm. It was drilled to a depth of 4,200 feet and in the Clinton sand and had no showing and was abandoned.

In the well defined limits of the old Summerfield gas pool drilled in several years ago, the Ohio Fuel Gas Co. completed a test on the H. R. McClintock farm in the SE, Section 33, Marion Township, Noble County. It was completed in the Lime sand at 1,084 feet and is showing for 786,000 feet of gas a day with a rock pressure of 300 pounds.

There was a fair completion in Perry County, the test of the Ohio Fuel Gas Co. on the Benton Snyder farm in the SW, Section 14, Reading Township. It was drilled in the Clinton sand at a depth of 3,007 feet and is good for 900,000 feet of gas a day. There were two other wells completed in this county but both were disappointments. In the NW, Section 14, Reading Township, the Hopewell Fuel Gas Co. completed a test on the Scallon heirs' farm in the Clinton sand at 3,010 feet and it was a very light gas well of about 6,000 feet a day and it will be abandoned. In the same township, and in the SE, Section 9, G. Berlin and others drilled a second well on the Mike Emmert farm in the Berea sand at 940 feet and it was a dry hole.

Drilling in Ohio

In Enoch Township, Noble County, Frank Worral and others have reached 560 feet on the J. B. Hutchinson farm, Section 12, and Way Wickens and others have rigged up on the J. M. Rowlands farm. In Section 18, Seneca Township, C. W. Rich and others have a fishing job at 1,050 feet on the J. K. and William McLaughlin farm. In Section 7, Noble Township, George Jewell and others have reached 500 feet in No. 6 on the Moses L. Grim farm.

In Jefferson County, a local syndicate is down to 750 feet on the D. S. Carr farm, Section 9, Island Creek Township. In Meigs County, Tyne and Hovis are drilling on the Ella S. Cobb farm and have reached 1,000 feet. This well is in Sutton Township. In Section 2, Jackson Township, Knox County, the Preston Oil Co. is drilling a second test on the W. Scott Beatty farm which will be a Clinton sand well. In Hocking County, the Kackelmacher estate is approaching the sand on the Carshner and Scholl farm in Section 14, Falls Township.

WEST VIRGINIA

There were but six completions in West Virginia and one was a small oil well. On Hoaglan Run, Williams district, Wood County, C. C. McKinley & Co. completed a second well on the John Hively farm in the Maxburg sand showing for a half-barrel pumper.

Gas Wells

On Bull Fork of Tanner Creek, DeKalb district, Gilmer County, Roberts and Morehead completed a third well on

the George Miller farm in the Injun sand, showing for 750,000 feet a day. On the same stream in that district, the Gainer Farm Oil Co. drilled a test on the Cedalia Collins farm in the Injun sand and it is a light gas well. In Center district, Gilmer County, the Chartiers Oil Co. completed a very fair gas well in No. 4 on the Daniel Huffman farm. It was drilled to 1,178 feet and in the Salt sand and came in natural. In Lee district, Calhoun County, the Rocksdale Oil & Gas Co. completed a test on the Thomas Slider farm in the Injun sand at 2,163 feet and it is a fair gas well natural.

In McCleery district, Tyler County, the Union Gasoline & Oil Corp. drilled No. 2 on the William and Maria J. Way farm deeper from the Maxon sand to 2,767 feet and in the Gordon sand and it will make a light gas well.

Drilling in West Virginia

In Ritchie County, J. F. Deem and others have rigged up to drill on the W. W. Lawrence farm in Grant district and the Continental Oil Co. has made a location for a second test on the N. T. Mason farm. In the same district, the Continental Oil Co. has reached 1,550 feet on the Margaret Mason farm. Morris and others are down to 1,175 feet on the Isaac Weekley farm, and W. H. Bickel has a rig standing on the S. C. Waller farm, both in Grant district. In Murphy district, C. B. Lewis and others has a rig standing on the W. P. Baker farm, and Joshua Haught and others have a rig standing for a second well on the Joshua Haught farm. Godfrey L. Cabot is down to 2,035 feet in a second test on the J. W. Grim farm, Murphy district, and has made a location on the J. N. Eddy farm. In the same district, Harrison and Ritchie are drilling at 1,735 feet on the Joseph Tingler farm and Huffman and others are down to 1,230 feet on the Emory Wilson farm.

In Marshall County, the Carnegie Natural Gas Co. is drilling deeper its test on the I. N. Hart farm, Liberty district, and has reached 2,850 feet. In Webster district, Frye and McCracken are drilling at 900 feet on the Harvey Knight farm. In Sandhill district, the Myers Oil Co. has a rig standing on the C. M. Strickland farm. The Manufacturers Light & Heat Co. has an extensive program in progress. It has rigged up to drill No. 3,463 on the William and A. Archer farm, and has a rig standing on the W. H. Roper and others farm, and No. 3,380. Its No. 3,483 on the W. B. Hicks farm is down to 1,924 feet and No. 3,411 on the V. B. Hicks farm has reached 3,135 feet and is close to the sand. On the Marshall County Bank property, No. 3,461 is drilling at 600 feet. All of these are in Cameron district. In Church district, Wetzel County, No. 3,458 is drilling at 1,650 feet and a rig is standing on the C. and B. Freeland for No. 3,465 and a test. In Liberty district, Marshall County, No. 2,265 on the George Miller farm is being drilled deeper and is down to 1,800 feet.

Gilmer County

In Gilmer County, there are several tests under way. F. G. Davis and others have reached 600 feet on the Alva J. Hardman farm, DeKalb district, and the Bowser Oil Co. is down to 1,800 feet in a second test on the John R. Ralston farm. In the same district the following rigs are standing: L. C. Waggoner on the A. L. Radabaugh; A. E. Ellis and others' No. 2 on the Bush heirs farm; Clem Morris and others on the W. F. Roberts farm; Frank Golden and others on the H. E. Engle heirs farm. In Center district, McCall and others have a rig up for a second test on the Homer S. Westfall farm, and the Carnegie Natural Gas Co. has a location ready for a third well on the L. Wilmoth farm. In the same district, the West Virginia Utilities Co. has reached 1,803 feet in a second test on the Waldo Bush heirs farm.

In Putnam County, J. V. Reishman has reached 900 feet on the William Dent farm, Scott district, and shut down for water at 900 feet. In the same district the Sowders Oil & Gas Co. has about reached the sand in No. 3 on the Pines and Moore farm. H. C. Zogg has made a location for No. 3 on the Maddox heirs farm, and the Celia Oil & Gas Co. one for No. 5 on the John Tormey farm, both Scott district.

In scattered districts and counties the following work is noted: In Fayette County, Godfrey L. Cabot is drilling on the R. R. Huddleston farm, Falls district, and it is drilling at 360 feet. In Kanawha district, Grosscup and Schultz have rigged up for No. 5 on the Black Betsey Coal Co. tract. In Raleigh County, Godfrey L. Cabot is down to 3,025 feet in No. 4 on the Beaver Coal Co. property in Slab Fork district, and in Trap Hill district has a rig standing for No. 3 on the same tract. In Greenbrier County the Thompson Harris Co. has reached 1,940 feet on the Samuel Hinkle farm, Williamsburg district. In Graham district, Mason County, the E. C. Moffett Drilling Co. is drilling a second test on the William Newton heirs farm, and in Cooper district the Hartford Salt Works has made a location on the Burt Sayre farm. In Ten Mile district, Harrison County, J. W. Johnson and others have a rig standing on the J. E. Morris farm, and the Furner Oil Co. is down to 1,500 feet in No. 8 on the John Furner farm. In Court House district, Lewis County, W. C. Turner has a rig standing on the John Brown farm. In Logan County the Big Creek Gas Co. has spudded in and started drilling on the Sallie A. Ball farm in Chapmansville district, and M. V. Jennings, trustee, has made a location in the same district. In Ceredo district, Wayne County, W. P. Floyd is drilling at 1,500 feet on the J. H. Start farm.

SOUTHWEST PENNSYLVANIA

In southwest Pennsylvania there were four wells completed, one an oil producer. In West Finley Township, Washington County, the Carnegie Natural Gas Co. completed a test on the S. Post farm in the Fourth sand, and at 2,771 feet, showing for about 4 bbls. a day. In South Franklin Township, of the same county, the same company completed a test on the C. T. Dodd farm. It was drilled in the 50-foot sand, and at 2,698 feet, and is a fair gas well.

In Greene County there were two wells brought in. In Center Township, George Drake and others completed a test on the Dean Piatt farm in the Salt sand, and at a depth of 1,616 feet, and it will make a fair gas well. In Perry Township the Peoples Natural Gas Co. drilled a test on the Spencer Rose farm to 3,500 feet, and in the Fifth sand, and it is a dry hole.

Drilling in Pennsylvania

In Greene County some of the tests drilling are listed as follows: In Richhill Township the Natural Gas Co. of West Virginia is shut down at 2,400 feet on the W. H. and W. L. Ewings farm on account of water, and has reached 800 feet in a second test on the Peter Parson farm. In Perry district the Greensboro Gas Co. is down to 2,600 feet on the Anna L. Schultz farm, and the Peoples Natural Gas Co. has made a location on the F. B. Haines farm. In Wayne Township the Manufacturers Light & Heat Co. spudded in and shut down at 250 feet for water on the Felix Bell farm, and the D. L. Shaffer Co. also shut down at 850 feet on the William Jones farm. In Center Township the Manufacturers Light & Heat Co. has reached 2,275 feet on the Barnett Orndorff farm. In Gilmore Township the Duquesne Gas Corp. shut down at 2,040 feet for casing on the J. A. Carpenter farm. In Greene Township the Philadelphia Natural Gas Co. is down to 3,350 feet and close to the sand on the Taylor Schultz farm.

PETROLEUM HEXANES

Four of the possible five isomers of hexane have been prepared by J. H. Bruun and M. M. Hicks-Bruun from Oklahoma petroleum. This work constitutes one of the research investigations supported by the American Petroleum Institute conducted by the United States Bureau of Standards. Boiling point, freezing point, specific gravity, and refractive index were determined for each hexane. The details are reported in Research Paper No. 239 of the Bureau of Standards sold by the Superintendent of Documents, Washington, D. C., for 10 cents each.

"AMCO" "All-Weather"

BULL ROPE

sales are increasing. Those who have given this *improved* rope a fair trial don't hesitate to say they found it all it was claimed to be—

Rot-Proof and Water-Proofed
Pliable All the Time

Remember it is scientifically treated; don't judge "AMCO" by other treated ropes now offered which are only imitations.

The "AMCO" treatment eliminates the hazard of serious damage by dry rot, etc. *Every* fibre is *protected* against *deterioration.*

Try "AMCO" the original and genuine Rotproof and Waterproof Manila next time—you'll be back for more. It is furnished in bull ropes, cat lines, 3 and 4 std., (with core or without) and general use rope. It is always put up in green burlap.

St. Louis Cordage Mills

Eleventh & Soulard Streets St. Louis, Missouri

Branch of

AMERICAN MANUFACTURING COMPANY

Noble and West Streets Brooklyn, N. Y.

Tulsa Representative:

SAM REDIC, 2220 E. Seventh Street

Write for list of distributors.

IDEAL
Tool Joints

Manufactured in all sizes for which A.P.I. Specifications have been adopted

We also manufacture $6\frac{5}{8}$ Joints with $8\frac{1}{8}$ O.D. which we recommend for extremely severe service

THE
NATIONAL SUPPLY
COMPANIES

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 78)

Jordan Drlg. Co.'s No. 7 Cole, 265 ft. S, 1,459 ft. W, NE cor., Sec. 49, in Sec. 50-18-4.....Location (reported drlg. in error).
United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4.....Location.

RICHLAND PARISH

La. G. & F. Co.'s No. 1 Binion, 813 ft. E, 496 ft. N, SW cor. NW, Sec. 2-16-6.....Began drlg. Dec. 29; cmtd. 12½-in. 157 ft; 9-in. 865 ft.
United (was Southern) Carbon Co.'s No. 2 Cooper, 660 ft. N, 3,551 ft. E, SW cor., Sec. 13-16-6.....Location.
Southern Carbon Co.'s No. 1 Hixson, 660 ft. N, 760 ft. W, SE cor., Sec. 33-16-6.....Began drlg. Dec. 29; cmtd. 12-in. 184 ft; 8-in. 891 ft.
Southern Carbon Co.'s No. 2-B M. & M. McCoy (was No. 1-D), 1,980 ft. S, 660 ft. W, NE cor., Sec. 30-16-6....Cmtd. 6-in. 2,285 ft.
Southern Carbon Co.'s No. 7 F. B. and E. A. Sartor, 2,540 ft. S, 660 ft. E, NW cor., Sec. 17-16-7.....Began drlg. Jan. 3; cmtd. 12-in. 183 ft.
State Line O. & G. Co.'s No. 1 Noble-Morris, 917 ft. N, 389 ft. W, SE cor. SE SW, Sec. 35-16-5.....Rig up.
United Carbon Co.'s No. 1 Lindow, 1,980 ft. S, 37 ft. E, NW cor., Sec. 15-16-6.....Rig up.

SABINE PARISH—ZWOLLE

W. M. Coates' No. 2 Sabine Lbr. Co., 330 ft. S, 330 ft. E, NW cor. NW SW, Sec. 1-7-12.....Location.
W. M. Coates' No. 2-B Sabine Lbr. Co., 330 ft. W, 785 ft. N, SE cor. SW SW, Sec. 1-7-12.....Location.
Tom David's No. 1 Holliday (was T. D. Allison's), Sec. 31-8-12, Zwolle Townsite.....S.D. wtr. 1,350 ft.
Tom David's No. 1 Neville & Roberts.....O.W.D.D; completed Apr. 18, 1930.
Davis & Tyson's No. 1 Neville & Roberts.....Flowed 75 bbls. 2,187 ft; arranging to shoot 2,400 ft.
R. L. Gay's No. 2-A Sabine Lbr. Co., 330 ft. N, 330 ft. E, SW cor. NE NW, Sec. 1-7-12.....Began drlg. Jan. 3; cmtd. 10-in. 58 ft; drlg. 150 ft.
F. M. Hood's No. 1-B Winston (was No. 2), 700 ft. E, 425 ft. S, NW cor., Sec. 31-8-12, Zwolle Townsite....S.D. 1,065 ft.
Ab Jones et al's No. 1 Ferguson, 330 ft. N, 330 ft. W, SE cor. NE SW, Sec. 33-8-12.....Drlg. 2,225 ft.
Loring Oil Co.'s No. 14 Bowman-Hicks Lbr. Co., SE cor., SW SE, Sec. 33-8-12.....Cmtd. 6⅝-in. 2,380 ft; T.D. 2,422 ft.
Loring Oil Co.'s No. 15 Bowman-Hicks Lbr. Co., NE cor., NW SE, Sec. 2-7-12.....Rig up.
Ohio Oil Co.'s No. 1 Brown, 330 ft. N, 330 ft. W, SE cor. SW SW, Sec. 35-8-12.....Cmtd. 6⅝-in. 2,385 ft.
H. W. Perritt's No. 2 Bowman-Hicks, NW cor. SE NE, Sec. 2-7-12.....Began drlg. Dec. 31; cmtd. 10-in. 72 ft.
H. W. Perritt's No. 3 Bowman-Hicks, 244 ft. S, 122 ft. E, NW cor. SE SW, Sec. 2-7-12.....Derrick.
J. M. Tompkins' No. 1 M. R. Stoker, 300 ft. S, 100 ft. W, NE cor. SW, Sec. 10-7-11.....Location.
J. C. Walton's No. 1 Sabine Lbr. Co., 300 ft. S, 300 ft. W, NE cor. NW, Sec. 11-7-12.....Rig up.

WEBSTER PARISH—SAREPTA

Cassidy & Davis' No. 1 Nickerson, 300 ft. S, 300 ft. W, NE cor. SW, Sec. 29-23-10.....Derrick.

ARKANSAS
JOHNSON COUNTY
(Cable tools)

Ark.-La. P. L. Co.'s No. 1 Hudson et al, 660 ft. N, 545 ft. E, SW cor. SE NE, Sec. 14-10-24.....Drlg. hard shale 2,805 ft.

OUACHITA COUNTY—SMACKOVER

L. H. Hamilton's No. 3 Doyle, 100 ft. E, 400 ft. N, SW cor. SE SE, Sec. 23-15-16.....Hole clean; S.D; W.O. 2,020 ft.

OUACHITA COUNTY—STEPHENS

J. D. Reynolds' No. 1 Pace, Lot 28, Sec. 21-15-19.....Cored top Nacatoch 1,505-11 ft; drlg. 1,700 ft.
Wesson & Bonner's No. 1 Wesson, 500 ft. W, 175 ft. N, SE cor. SW NW, Sec. 22-15-19.....300 ft. fluid; W.O.S.R; T.D. 2,800 ft.

UNION COUNTY—CHAMPAGNOLLE

Ohio Oil Co.'s No. 11 Crain, 330 ft. N, 330 ft. W, SE cor. SE SW, Sec. 1-17-14.....Missed D.S. test 2,980-3,005 ft; cored oil sand 3,005-11 ft.
Ohio Oil Co.'s No. 2 Raulston, 330 ft. S, 330 ft. E, NW cor. NW SE, Sec. 12-17-14.....Derrick.

UNION COUNTY—EL DORADO

Rice Drlg. Co.'s No. 1 Watley, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15.....S.D; repairing rig; T.D. 1,520 ft.
Southern Prod. Co.'s No. 1 Wingfield, NE cor. SE NW, Sec. 16-19-15.....S.D; title work; T.D. 215 ft.

EAST TEXAS
HARRISON COUNTY

Calatex O. & G. Co.'s No. 6 Argus, 755 ft. N, 699 ft. W, Mile Post 27, in J. Womack Sur.....Location.
Shell Rock Pet. Co.'s No. 1 Oliver Dougherty, W. D. Burris Sur.....S.D; fishing D.S. 3,568 ft.

PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur.....Began drlg. Dec. 27; cmtd. 12½-in. 80 ft; drlg. 600 ft.
Dillon & Bradham's (was W. G. Banks et al's), No. 1 C. O. Baldwin, 1,395 ft. W, 1,362 ft. S, NE cor. Baldwin 290 ac. in Hampton West Sur.....Began drlg. Dec. 30; cmtd. 12½-in. 43 ft.
S. E. Bell et al's No. 1 Burnett Lbr. Co., C, S. B. Hendricks Sur.....Washing to bottom; T.D. 2,863 ft.
Creighton & Hart's No. 1 Greeny-Kyle, C, Greeny-Kyle 60 ac., Jas. Tippett Sur.....Drlg. hard lime 3,601 ft.
United Prod. Corp.'s (was Texas-La. Prod. Co.'s), No. 5 Baker, 1,000 ft. N, 550 ft. W, SE cor., 63-ac. Baker tr., in B. C. Jordan Sur.....Cmtd. 6⅝-in. 4,575 ft.
Knox et al's No. 1 Dunham (was Jackson et al's), 150 ft. W, 150 ft. N, SE cor. M. I. Dunham 29 ac., in Chas. Haley Sur.....Arranging 5 3/16-in. and packer 2,865 ft; T.D. 2,888 ft.
Nat. Gas Prod. Co.'s No. 4 Roquemore, 6,203 ft. E, 6,969 ft. S, NW cor., B. C. Jordan Sur.....O.W.D.D; completed May 4, 1928; 3,000,000 ft. gas 966 ft; arranging to deepen.
Nat. Gas Prod. Co.'s No. 1 H. H. Alvord, 6,777 ft. S, 6,162 ft. E, NW cor., B. C. Jordan Sur.....Drlg. lime 3,525 ft.
Doris Thomason's No. 15 Crenshaw, 1,992 ft. S, 2,305 ft. E, SW cor., Jno. Womack Sur., in B. C. Jordan Sur.....Derrick.

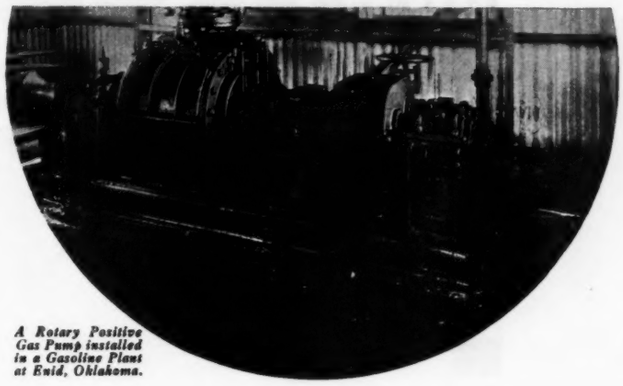
MISSISSIPPI
HINDS COUNTY

Feazel O. & G. Co.'s No. 1 Garrett, SE cor. NW, Sec. 2-5-1e.....Location.
Cleve Love et al's No. 2 Ridgeway-McGhee, SE cor. NW, Sec. 2-5-1e.....Rigging up.
Miss. Pet. Co.'s No. 2 Baptist Orphanage, 210 ft. N, 210 ft. W, SE cor. NE SE, Sec. 28-6-1e.....Rig up.

RANKIN COUNTY

Feazel O. & G. Co.'s No. 1 Cox, SE cor. SE SE, Sec. 12-5-1e.....Began drlg. Dec. 5; cmtd. 10-in. 83 ft; 6⅝-in. 2,371 ft.
Gulf Ref. Co.'s No. 1 Hamilton, 1,320 ft. N, 1,320 ft. E, SW cor., Sec. 12-5-1e.....Coring 3,725 ft.
Pearl River O. & G. Co.'s No. 3 Pate, Sec. 12-5-1e.....Drlg. shale 2,000 ft.
Miss. G. & F. Co.'s No. 1 Hanna, SW cor. SW NE, Sec. 14-5-1e.....Derrick.
Pioneer O. & G. Co.'s No. 1 Ragland, NE cor. SW SW, Sec. 12-5-1e.....Derrick.

Volatile—Viscous



A Rotary Positive Gas Pump installed in a Gasoline Plant at Enid, Oklahoma.

Rotary Positive Pumps are economically applied in the handling of volatile vapors, liquids and gases—hot and cold—that modern methods of gasoline manufacture produce.

Both volatile and viscous materials are easily handled with *Rotary Positive Pumps.* These *Rotary Positive Pumps* will not become air-bound, there are no valves to stick, no ports to clog, and no internal lubrication is required.

For dependable moving of volatile and viscous vapors and liquids, either separately or simultaneously, specify *Rotary Positive Blowers, Pumps and Exhausters.*

Blower Division:
Meters
Gas Pumps
Blowers
"Cycloidal" Pumps
Vacuum Pumps
Liquid Pumps

Holder Division:
Gas Holders
Stacey "Bullets"
Purifiers
Scrubbers
Tanks
Penstocks

THE STACEY ENGINEERING CO.
[Blower Division]

ROOTS
WILBRAHAM-GREEN
CONNERSVILLE
Michigan Ave. and 14th Street
CONNERSVILLE, INDIANA

20 North Wacker Drive
Chicago, Illinois.

420 Lexington Avenue
New York City

FLUID-FUSION-WELDED

WALLS 3½ INCHES THICK

GUARANTEE-SAFETY

IN THIS

150,000 LB.

CRACKING VESSEL

P.I.W.

The great wall thickness possible in Fluid-Fusion welded cracking vessels—up to 6" thick and heavier—permits the designing engineer to bring the diameter of his vessel and the wall thickness into safe conformity for almost any conceivable set of operating conditions.

These heavy-walled vessels have opened new ranges of high pressures and high temperatures and have realized a new conception of safety for such operations.

There is a perfect performance record back of Fluid-Fusion welded pressure vessels. Write to the nearest sales office.

THE PETROLEUM IRON WORKS CO.

SHARON, PA.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 78)

C. D. Neff et al's No. 1 H. P. Dowling, 240 ft. N, 240 ft. W, SE cor., Sec. 13-13-14.....Base chalk 2,040 ft; drlg. lime 2,059 ft.

C. D. Neff et al's No. 1 Ramsey, 1,000 ft. W, 400 ft. S, NE cor. SE, Sec. 33-13-16.....Rig up.

LA SALLE PARISH

La. G. & F. Co.'s No. 3-B Tensas, 1,980 ft. W, 1,321 ft. S, NE cor., Sec. 23-7-4.....D.S. test 1,879 ft., dry; drlg sandy shale 2,168 ft.

NACHITOCHES PARISH

W. M. Coats' No. 1 Collins, 730 ft. N, 50 ft. E, C, Sec. 28-9-10.....S.D. 3,718 ft.

J. W. Cooper et al's No. 1 Cooper, NW SW, Sec. 35-11-10..Drlg. shale 2,640 ft.

Cooper et al's No. 2-A Cooper, C SE SE, Sec. 32-11-10..Top chalk 1,400 ft; S.D. 1,421 ft.

Gulf Ref. Co.'s No. 1 Bodcaw, 1,910 ft. S, 605 ft. W, NE cor., Sec. 13-13-8.....Cored gray sandy shale 2,495 ft.

C. M. Talley et al's No. 1 C. M. Talley, 1,980 ft. W, 660 ft. S, NE cor. SE, Sec. 29-11-10.....Rig up.

RED RIVER PARISH

Lucky Strike Oil Co.'s No. 1 Chaffraix, 200 ft. S, 200 ft. E, C, Sec. 33-13-10.....D.S. test 2,820-3,010 ft; S.W. and show oil; arranging to plug back.

RICHLAND PARISH

Alto Gas Co.'s No. 2 Hunt, 660 ft. S and E, NW cor., Sec. 13-17-5.....Derrick.

La. G. & F. Co.'s No. 1 Glanton, 262 ft. E, 618 ft. N, SW cor. NW SE, Sec. 33-17-6.....Tested dry 2,400 ft; arranging to deepen.

Palmer Corp.'s No. 2 Seubert, 660 ft. N, 660 ft. W, SE cor. SE NW, Sec. 35-17-5.....Location.

SABINE PARISH

Diffie & Barnett's No. 1 Lites (was J. W. Clark's), 330 ft. N, 330 ft. W, SE cor. SW NW, Sec. 34-8-11...Began drlg. Nov. 20; cmtd. 10-in. 105 ft.

Tom David's No. 1 Smith, 460 ft. N, 200 ft. W, SE cor. SE SE, Sec. 27-8-10.....Drlg. shale and lime 2,610 ft.

Essco Pet. Co.'s No. 1 La. Long Leaf Lbr. Co., 487 ft. N, 44 ft. W, SE cor. SW SW, Sec. 35-8-11.....Tested dry 2,420 ft. and 2,600 ft; arranging test 2,600 ft.

Eylers O. & G. Co.'s No. 1 Frazier, 330 ft. S, 330 ft. W, NE cor. NW SW, Sec. 10-8-11.....Dry 2,650 ft; S.D.

Franks et al's No. 1 Dew, 300 ft. N, 300 ft. E, SW cor. SE, Sec. 32-8-11.....Cementing 6-in. 2,211 ft.

R. L. Gay, tr.'s No. 1-A Sabine Lbr. Co., 212 ft. S, 170 ft. E, NW cor. SE NW, Sec. 1-7-12.....6-in. stuck 2,300 ft; cmtd. 4½-in. 2,290 ft; arranging test 2,690 ft.

Lacy Jessup Oil Co.'s No. 1 Brown Lbr. Co. (was Lacey et al's), S NW NE, Sec. 28-8-10.....S.D. 3,160 ft.

Lacey Prod. Co.'s No. 1 Cooper, 330 ft. N, 330 ft. W, SE cor. SW NW, Sec. 30-8-11.....W.O.S.R; 1,200 ft. oil; T.D. 2,620 ft.

Lawrence et al's No. 1 Hubley, 330 ft. N, 330 ft. W, SE cor. NE, Sec. 21-7-11.....S.D. 2,650 ft.

Lide et al's No. 1 Ponder, 990 ft. N, 990 ft. W, C, Sec. 15-7-11.....Top marl 2,395 ft; cmtd. 6-in. 2,385 ft; T.D. 2,407 ft; tested dry 2,412 ft; 100 ft. oil in hole from 2,422 ft; D.S. test dry; show oil and gas 2,500 ft; W.O.S.R.

Lide et al's No. 2 Ponder, 200 ft. S, 200 ft. E, NW cor. NE NW, Sec. 15-7-11.....Derrick.

Longoria et al's No. 1 Belton, 330 ft. S, 330 ft. E, C, NE, Sec. 31-9-12.....Rig up.

Lyons & Neely's No. 1 Sabine Lbr. Co., NW cor. NE NE, Sec. 12-7-12.....Began drlg. Dec. 31; cmtd. 10-in. 120 ft.

Magnolia Pet. Co.'s No. 1 R. J. Lucius, 990 ft. S, 990 ft. W, NE cor. NW NE, Sec. 2-6-12.....Began drlg. Dec. 31; cmtd. 13⅜-in. 204 ft; drlg. 400 ft.

McDaniel & Lieber's No. 2 Batson, 480 ft. S, 320 ft. E, NW cor. SW SE, Sec. 16-8-12.....S.O; tested dry 2,565 ft; S.D; W.O.

Frank Melat, Inc.'s No. 1 Sabine Lbr. Co., 330 ft. N, 330 ft. E, SW cor. SW, Sec. 6-7-11.....Drlg. 562 ft.

Frank Melat, Inc.'s No. 2 Sabine Lbr. Co., 330 ft. S, 330 ft. W, NE cor. NE NW, Sec. 14-7-12.....Tested dry 2,500 ft; show gas 2,560 ft.

Merritt et al's No. 1 La. Long Leaf Lbr. Co., 8½ NE NE, Sec. 32-8-11.....Dry 2,500 ft; W.O.

P. & G. Oil Co.'s No. 1 Williams, 330 ft. S, 330 ft. W, NE cor. SE NW, Sec. 21-7-12.....Rig up.

W. P. Pearce et al's No. 1 G. Pearce, 330 ft. N, 330 ft. W, SE cor. SW NW, Sec. 10-7-11.....W.O; 150 ft. oil in hole; T.D. 2,600 ft.

Pelican Nat. Gas Co.'s No. 7 La. Long Leaf Lbr. Co., 300 ft. S, 300 ft. W, NE cor. NW SW, Sec. 10-7-11..Bailing to test 2,600 ft.

Pelican Nat. Gas Co.'s No. 7 Sabine Lbr. Co., 300 ft. S, 300 ft. W, NE cor., Sec. 11-7-12.....2,000 ft. oil in hole; W.O; T.D. 2,399 ft.

D. H. Riddick's No. 1 Scretchfield, 400 ft. E, 400 ft. N, SW cor. NW SE, Sec. 13-9-12.....Made 30-ft. hole 3,280-3,310 ft; S.D.

T. G. Shaw et al's No. 1 Sabine Lbr. Co., 150 ft. N, 150 ft. E, SW cor., Sec. 1-7-12.....Tested dry 2,477 ft; S.D. 2,505 ft.

Trans-America Oil Corp.'s (was Southland Oil Co.'s), No. 1 Carter, 1,030 ft. W, 345 ft. N, SE cor. SE NE, Sec. 36-8-12.....W.O; 60 ft. oil in hole; T.D. 2,515 ft.

A. H. Tarver, tr.'s No. 1 Baker, 330 ft. S, 330 ft. E, NW cor. NE, Sec. 36-8-12.....Base chalk 2,752 ft; top Blossom 3,814 ft.

The Texas Co.'s No. 1 Stoker, 330 ft. E, 300 ft. S, C, Sec. 10-7-11.....W.O.S.R. 2,554 ft.

The Texas Co.'s No. 2 Stilie, 910 ft. W, 320 ft. S, NE cor. NW, Sec. 3-7-11.....Began drlg. Jan. 4; cmtd. 10-in. 96 ft; drlg. 912 ft.

Triangle Pet. Co.'s No. 1 Sabine Lbr. Co. (was R. B. Whittle's), 330 ft. N, 330 ft. E, SW cor. SE SW, Sec. 36-8-12.....Cmtd. 6⅝-in. 2,274 ft.

Wilson & Son's No. 1 Gandy-Garrett, NW SW, Sec. 4-8-12 (portable rig).....Drlg. 2,215 ft.

John Woodley's No. 1 Sabine Lbr. Co., 400 ft. S, 330 ft. W, NE cor. SE, Sec. 12-8-12.....Began drlg. Dec. 16; cmtd. 10-in. 103 ft.

TENSAS PARISH

Seip et al's No. 1 Fowler, C SW NE, Sec. 10-10-10.....S.D. 905 ft.

A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12.....Reamed to bottom; S.D. 2,780 ft.

UNION PARISH

Ouachita Nat. G. & O. Co., Inc.'s No. 1 Smith, 660 ft. S, 1,324 ft. W, NE cor., Sec. 36-20-2.....Began drlg. Jan. 3; drlg. 286 ft.

WEBSTER PARISH

Coyle, tr.'s No. 1 Frazer, 200 ft. N, 200 ft. E, SW cor. NE SE, Sec. 27-23-11.....Derrick.

Gehrig's (was Girard Oil Co.'s) No. 1 R. H. Miller, 330 ft. S, 990 ft. W, C, Sec. 16-18-10.....S.D; W.O. 3,330 ft.

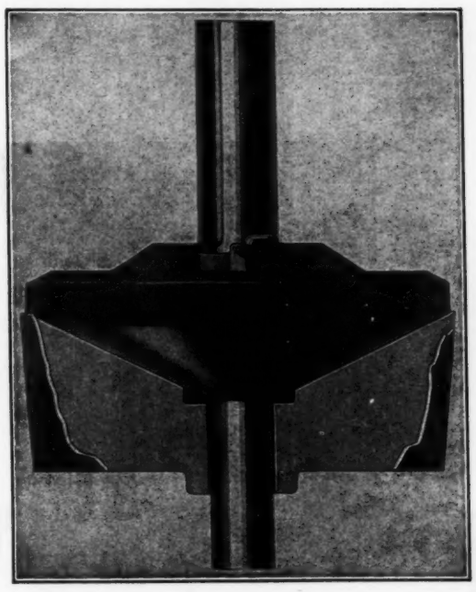
Red Hawk Oil Co.'s No. 1 Mathews, 330 ft. N, 330 ft. E, C, Sec. 11-23-9.....Rig up.

ARKANSAS

CHICOT COUNTY

R. R. Smith's No. 1 Lytle, 660 ft. N, 660 ft. E, C, Sec. 31-15-3.....Cmtd. back to 2,888 ft; T.D. 2,925 ft; arranging whipstock 2,865 ft.

(Continued on Next Page)



We make 67 types of valves . . . not one has been successfully imitated . . . . . .

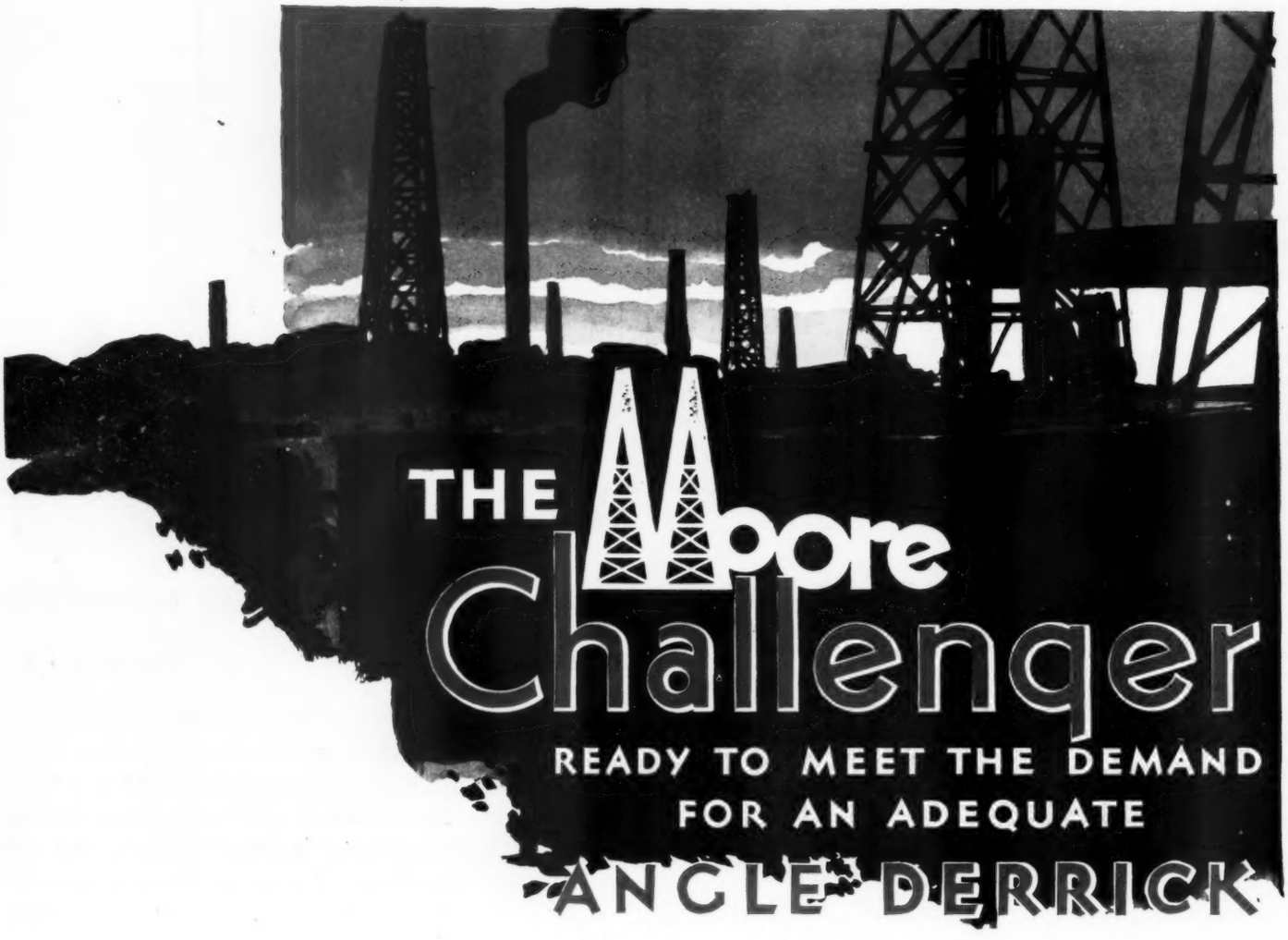
No matter what mud pump you buy you may be sure that there is a MacClatchie valve to fit it. All are built according to the time-proven design originated by MacClatchie. All are made up of only the finest special alloys and carefully processed rubber. All are backed by a record of economy and service that is without an equal.

MacClatchie developed the valve years ago and the principle of the design has never been changed. Several applications, now on file at the Patent office, will shortly give full protection to those who are standardizing on MacClatchies. Order a set on trial today. You will soon see why "There are more MacClatchie Valves sold than any other make." *Quality is responsible!*

MacCLATCHIE

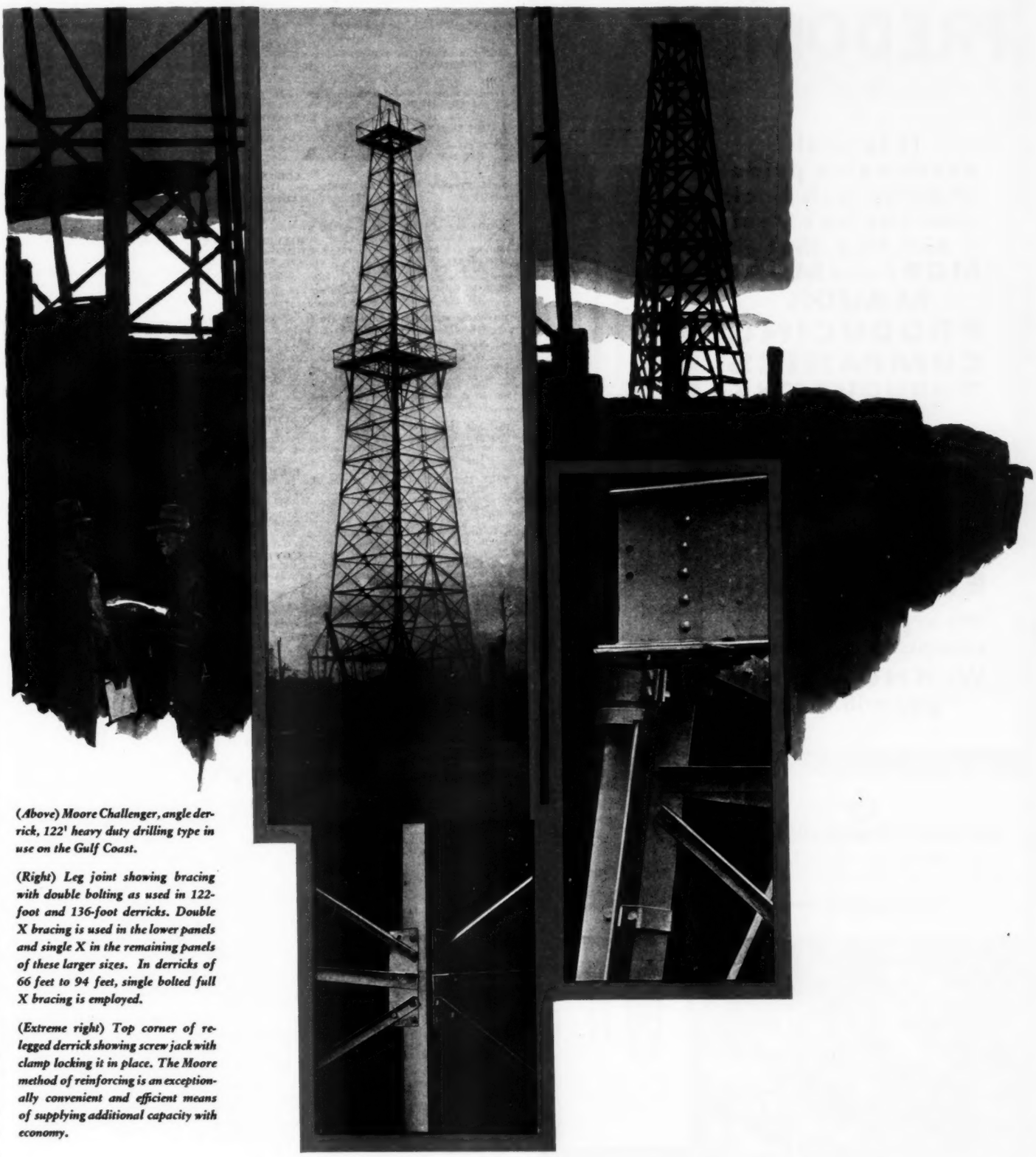
MANUFACTURING COMPANY, COMPTON, CALIF.

Branches in Houston, Texas; Ventura and Bakersfield, Calif.
Valves Stocked by all Mid-Continent Continental Supply Stores.



By the use of silicon steel leg sections, together with the design of bracing and the balanced construction which have made the Champion Derrick famous for strength and rigidity, Moore offers an angle derrick which fully satisfies every requirement for a structure of this type. The Moore Challenger conforms to A. P. I. standards and the important features of interchangeability, characteristic of Moore design, have been utilized. Extensive field service has demonstrated the strength and economy of the Moore Challenger.

LEE C. MOORE & COMPANY, Inc., Pittsburgh—Tulsa
ESTABLISHED 1907
New York Offices: Oilfield Equipment Co., 30 Church St., New York, N.Y.
Dallas, Texas Wichita, Kansas Casper, Wyo. Shreveport, La. Houston, Texas
Stocks in All Principal Fields



(Above) Moore Challenger, angle derrick, 122¹ heavy duty drilling type in use on the Gulf Coast.

(Right) Leg joint showing bracing with double bolting as used in 122-foot and 136-foot derricks. Double X bracing is used in the lower panels and single X in the remaining panels of these larger sizes. In derricks of 66 feet to 94 feet, single bolted full X bracing is employed.

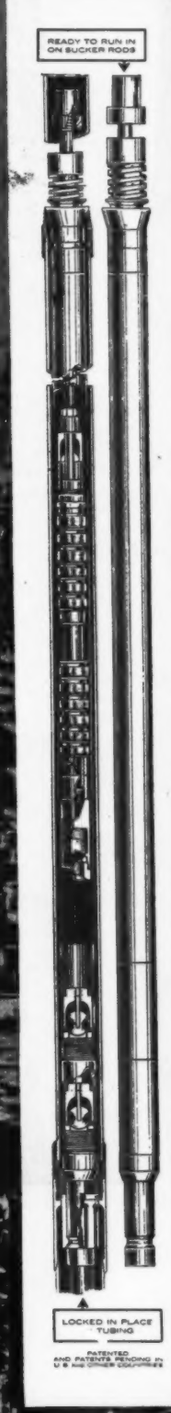
(Extreme right) Top corner of relegged derrick showing screw jack with clamp locking it in place. The Moore method of reinforcing is an exceptionally convenient and efficient means of supplying additional capacity with economy.

EPCO PUMPS PREDOMINATE

It is with pardonable pride that we look back over the last year and find that MORE and MORE MAJOR PRODUCING COMPANIES THRUOUT THE WORLD have checked up on their pumping costs and have STANDARDIZED EXCLUSIVELY ON EPCO PUMP

We urge you too, to compute your costs

We KNOW what you will find



"Economy is Right"

The Economy Pump & Oil Tool Co.

Offices and Factory: 4436 East 49th St., Los Angeles, Calif., U. S. A. Offices and Warehouses Ft. Worth, Texas. Representatives at Tulsa, Bristow, Ponca City, Duncan, Seminole and Earlsboro, Oklahoma; Ft. Worth, Beaumont, Big Spring and Houston, Texas; Shreveport, Louisiana; also Representatives and distributing points at Long Beach, Huntington Beach, Santa Fe Springs, Taft and Bakersfield, California, or any National Supply Company Store throughout the world.

THE NATIONAL SUPPLY COMPANIES

CLEBURNE COUNTY
(Cable tools)

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 33-11-9.....Swedging csg. 2,300 ft; T.D. 3,740 ft.

DALLAS COUNTY

E. C. Brewer's No. 1 W. E. Hillman, Sec. 20-10-13.....Drlg. gummy shale 1,608 ft.
J. H. James, tr.'s No. 1 Fordyce Lbr. Co., NW cor., Sec. 11-9-15.....Began drlg. Jan. 6; drlg. 50 ft.

GARLAND COUNTY
(Cable tools)

Givens et al's No. 1 Garrett, 660 ft. S, 660 ft. W, C, Sec. 1-3-19.....Hole full S.W; pulling 5 3/16-in.; T.D. 3,756 ft.

HOT SPRINGS COUNTY

Anisman et al's No. 1 Hinson est., NE NE, Sec. 19-4-16 (portable rig).....Claim gas show 14-ft. sand 1,604 ft; no 5 3/16-in. csg. set; S.D; W.O; 1,604 ft.
John Watkins' No. 1 Cunningham (was J. R. Lockhart's), 385 ft. S, 385 ft. W, NE cor., Sec. 11-5-16....Cmtd. 12½-in. 42 ft; S.D. 110 ft.

LAFAYETTE COUNTY

McIver et al's No. 1 Hottle, NW cor. NE, Sec. 1-20-6...Began drlg. Nov. 8; S.D. 21 ft.

LITTLE RIVER COUNTY

G. R. Stevens et al's No. 1 Greason (was A. L. Buck's), NW NW, Sec. 25-13-32.....D.S. stuck 2,100 ft; cld T.D. 3,502 ft.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26.....S.D; W.O. 3,610 ft.

MADISON COUNTY
(Cable tools)

J. W. Baxter's No. 2 Hallin, C, Sec. 17-16-25.....T.A. 405 ft.
J. W. Baxter's No. 3 Hallin, NE SW, Sec. 1-17-26.....S.D. 50 ft.

MILLER COUNTY

Bullock Oil Co.'s No. 1 Hervey, SE NE, Sec. 33-14-26....Coring 2,750 ft.
East Texas O. & G. Co.'s No. 1 Harvey, 500 ft. E, 300 ft. S, NW cor., Sec. 2-15-26.....Set full string 4½-in. 2,957 ft; T. D. 2,961 ft.
E. & F. Oil Co.'s No. 1 E. L. Beck, 200 ft. S, 200 ft. E, NW cor. SW, Sec. 36-15-26.....S.D; sidetracking short string 4½-in; T.D. 2,961 ft.
Fitzwater et al's No. 1 Beck, 200 ft. N, 200 ft. W, SE cor. SW SE, Sec. 23-15-26.....Began drlg. Oct. 13; cmtd. 10-in. 93 ft.
Gusher Bend Oil Co.'s No. 1 Adams, 120 ft. S, 800 ft. W, NE cor. NW, Sec. 26-14-26.....S.D. 160 ft.
Lenz et al's No. 2 Johnson, SE cor., Sec. 24-15-16.....Drlg. 4,200 ft.
Lenz et al's No. 3 Johnson, 250 ft. W, 150 ft. N, SE cor. NE NW, Sec. 24-15-26.....S.D. 2,850 ft.
Salzer & McRae's No. 1 Rose, SW cor. NE SW, Sec. 9-16-26.....S.D. fuel 475 ft.

OUACHITA COUNTY

Belmont et al's No. 1 Buck, SE cor. SE SW, Sec. 16-15-17..S.D. 2,907 ft.
Copenhaven et al's No. 1 Elliott, Sec. 11-15-17.....D.S. stuck; T.D. 3,114 ft.
A. B. Turner, tr.'s No. 1 Dave Brown, 220 ft. N, 220 ft. E, SW cor., Sec. 23-15-18.....Coring red beds 2,800 ft.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14.....Drlg. 1,990 ft.
E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE, Sec. 31-8-24.....Derrick.

POPE COUNTY

Ark.-La. P. L. Co.'s No. 2 McFaddin, 685 ft. N, 485 ft. W, SE cor. NE SW, Sec. 15-9-21.....Cmtd. 8⅝-in. 3,415 ft.

SCOTT COUNTY

Ark. Valley Gas Co.'s No. 1 Turner, C SE, Sec. 27-5-30....Location.
Heavener O. & G. Co.'s No. 1 Riser, Sec. 26-4-26.....Sidetracking tools 1,436 ft; T.D. 1,540 ft.

UNION COUNTY

Chapman & Wilson's No. 1 A. H. Hadley, 330 ft. N, 330 ft. E, SW cor. NE SW, Sec. 3-18-13.....Rig up.
S. B. Hickman's No. 1 Hogg, 330 ft. S, 150 ft. E, NW cor. SE SE, Sec. 35-16-17.....Coring 2,892 ft.
H. L. Hunt's No. 5 Swilly, 330 ft. S, 330 ft. W, NE cor., Sec. 28-16-16.....W.O.S.R; 2,000 ft. fluid; T.D. 3,689 ft.
H. L. Hunt's No. 6 Swilly, 330 ft. N, 330 ft. W, SE cor., Sec. 21-16-16.....1,000 ft. fluid 4,090 ft; S.W. 3,711 ft; W.O.S.R.
Marine Oil Co.'s No. 2-B Thompson, 330 ft. S, 330 ft. E, NW cor. SE NE, Sec. 10-18-13.....Drlg. 3,005 ft.
Marine Oil Co.'s No. 1-F Winn, Sec. 10-18-13.....Hole full fluid 50% S.W; waiting on air; T.D. 3,604 ft.
Oil Field Corp.'s No. 1 Simmons, 330 ft. S, 330 ft. E, NW cor., Sec. 13-18-13.....D.S. test 3,556-3,602 ft; S.W; T.A. 3,602 ft.

VAN BUREN COUNTY

Glenn Kohle et al, tr.'s No. 1 Scalan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-13.....S.D. 50 ft.

WASHINGTON COUNTY
(Cable tools)

Delbert & Graves' No. 1 Cunningham, Sec. 14-15-32.....S.D; W.O. 602 ft.
C. H. Willoughby's No. 1 Jones, Sec. 34-16-30.....S.D. 1,697 ft.
Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32..U.R. 8-in. to T.D. 1,500 ft.
H. H. Taylor et al's No. 1 Runny, C NE SW, Sec. 1-13-29..S.D. 1,700 ft.

YELL COUNTY
(Cable tools)

Tegmeier & Luckett's No. 1 Falcon, Sec. 36-7-21.....S.D. 5,710 ft.

EAST TEXAS

BOWIE COUNTY

Joe Burnham et al's No. 1 G. W. Burnett, 150 ft. W, 400 ft. S, NE cor. G. W. Burnett 76 ac., in W. H. Janes Sur.....Base Austin chalk 3,095 ft; top red beds 3,145 ft; S.D. 3,150 ft.
Maud-Redwater Oil Co.'s No. 1 Merritt, 175 ft. N, 175 ft. E, SE cor. G. W. Hardige 100-ac. tr. on Floyd Merritt tr. in Y. S. McKinney Sur.....S.D. 632 ft.
Lee Timberlake et al's No. 2 Tidwell, 2,510 ft. N, 655 ft. W, SE cor. T. M. Rice Sur.....S.D. 720 ft.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 127-ac. tr., in J. H. Murphy Sur.....Cored sand 3,510-20 ft; drlg. 3,600 ft.

CASS COUNTY

Wesley Morse et al's No. 1 Henderson, 800 ft. E, 1,100 ft. S, NW cor. C. E. Bailey Sur.....Derrick.
Olds & Smith's No. 1 Atheny, 3,056 ft. W-E line, 856 ft. S-N line, J. C. Byers Sur.....No 10-in; cmtd. 12½-in. 40 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 86 ac. in K. E. Welborn Sur. ....Cored limey shale 2,270-75 ft.
John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 3,100 ft. E, NW cor., Wm. Davis Sur.....Drlg. 252 ft.

MARION COUNTY

Hindeman & Rhondo's No. 1 McGaughey, 1,547 ft. W, most northerly SW cor., 1,638 ft. N, most northerly S line, W. J. Wills Sur.....Location.
P. E. Hussey's No. 1 A. A. Trammell, Chas. Lockhart Sur.....Fishing 10 joints D.S; T.D. 1,884 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur. ....Drlg. 2,795 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur. ....Swedging 3 joints collapsed 8-in; arranging to cmt. 6⅝-in. and packer 2,812 ft.

SHELBY COUNTY

Chapparell Oil Co.'s No. 2 Holt, Matthew Moore Sur. ....Hole clean; arranging to deepen; 3,097 ft.

ROCKY MOUNTAIN AREA

(Continued from Page 83)

in a number of years, but no new wells have been started. The major companies which have obtained acreage are desirous of getting a better lineup on the possibilities of the discovery well before going ahead, but the conditions are such that some delay may be expected before any new hole is made. The total depth on October 10 was 6,641 feet where it averaged around 180 bbls. a day. Upon being deepened 5½ feet two months later the flow increased to 565 bbls. in 24 hours and it is holding up to between 350 and 360 bbls. daily.

The Greasewood discovery is being followed by the incorporation of numerous local companies which are busy obtaining leases. Some of these are being formed on a substantial basis and may play an important part in wildcatting in eastern Colorado, but along with these are a few that bear the earmarks of stock promotions. Those conversant with conditions know that it will require deep drilling out in that territory and that deep wildcats are expensive. Heretofore all wildcats have been drilled with cable tools, but it is now generally agreed that rotary equipment will be used extensively in future operations. The larger companies are still carrying on their geological investigations and since these companies have the best facilities available, it is apparent that the smaller companies not so well equipped will do considerable guessing as to the location of domes.

Morgan County

Indian Territory Illuminating Oil Co.'s No. 1 State, C NE NE, Section 16-1n-57, Fort Morgan anticline, is reported bottomed at 3,929 feet and to have made little progress the past two weeks due to the necessity for pulling and rerunning 6⅝-inch casing.

Washington County

Fred R. Zimmerman and others' No. 1 Middlemist (formerly Middlemist Oil Co.), SE SW SE, Section 1-4s-56, is bottomed at 1,522 feet and delayed by the 12½-inch becoming frozen. Efforts to free it have not been successful and 10-inch will be run.

Arapahoe County

MacDeb Drilling Co.'s No. 1 Fitzsimmons, C S half NE, Section 7-4s-66, Aurora district, was deepened to 5,735 feet. The 6¼-inch was cemented at 5,690 feet and drilling has been resumed. There is considerable doubt as to the identity of the horizon in which the bit is working and as soon as the hole is deepened a few feet to be sure that iron and cavings are out of the way, samples will be taken for analysis.

Jefferson County

Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor., Section 24-4s-69, near Denver, is drilling at 3,804 feet after underreaming 6⅝-inch to within 12 feet of bottom. The hole continues to make small shows of gas.

Larimer County

Continental Oil Co.'s No. 3 Scott, SW SE, Section 6-9-68, Wellington Dome, is drilling at 4,932 feet. The Lakota was cased off at 4,645 feet. The Standard Oil Co. of Colorado is starting three new operations on the Berthoud Dome. Its No. 1 Hall (Pringle), NE cor., Section 20-4n-69, an offset on the west to its No. 1 Hertha, is building rig. Its No. 1 Gillette, NW cor. NE, Section 21-4-69, is moving in, and its No. 1 Coleman Lake, NE NW NW, Section 21-4-69, an offset on the east to No. 1 Hertha, is digging cellar. This company's No. 1 Hertha, NW cor., Section 21-4-69, is bottomed at 3,430 feet and preparing to run 6¼-inch which will be carried to the top of the Muddy sand. The gas in the Nio-Benton is being saved between the 6¼ and 8¼-inch strings.

Fremont County

One completion was reported in Fremont County in Thomas A. Davis' No. 6 Hassler, NE SW SE, Section 21-20-69, South Florence. It was drilled to a total depth of 2,700 feet. It made 40 bbls. the first 24 hours from the shale at 1,485-1,965 feet. Isador Spangler's No. 1, SE SE, Section 4-20-69, is drilling at 910 feet.

Moffat County

The Texas Production Co.'s No. 4 Wick, NW NW, Section 10-4n-91, Moffat Dome, reached the top of the Sundance at 4,748 feet and 2 feet in filled quickly with oil. It will be bridged back 2 feet and the 4¾-inch will be cemented. It looks like it will make a nice producer. The 6¼-inch was set at 4,551 feet on top of the Morrison. Gas found in that formation proved to be only a pocket. This well was an old producer in the Dakota at 4,107 feet which was deepened with rotary tools. Mountain Fuel Supply Co.'s No. 2 State, SE NE, Tract 37-12n-100, Hiawatha Dome, is drilling at 1,300 feet after cementing 15½-inch at 1,285 feet. The depth to which 15½-inch was carried indicates that this will be a deep test.

Montezuma County

Mesa Verde Ranch Co.'s No. 3 Haller, NE SE SE, Section 33-36-19, Mount Lookout structure, is bottomed at 902 feet with water from the McElmo in the hole. It will be plugged back to the 52-foot sand in the Dakota which showed saturation. The formation was hard and the oil would not flow into the hole and it is planned to erect a compressor and test the sand. The Department of the Interior began drilling a well for water on December 22 in the Mesa Verde National Park. L. S. Teague has the contract and standard cable tools are being used. It probably will go to 3,700 feet and may yield some valuable geological information on that region. The plateau upon which the well is being drilled is estimated to have supported a population of at least 70,000 people many centuries ago. Ruins of numerous cliff dwellings in the canons form the principal attraction of the park. The lack of water has been a handicap. Old ruins indicate the cliff dwellers built reservoirs of shallow depths in the rocks to hold the rain water.

Park County

South Park Oil & Gas Co.'s No. 1 Esche, SE cor. NW, Section 5-9s176, Muleshoe Dome, is resuming at 600 feet in a hard rock believed to be just above the Hygiene sand in the Pierre shale. It has been delayed on account of water shortage and a 1,200-foot line has been laid from a nearby ranch. South Park Oil Co.'s No. 1 Milligan, NE SE, Section 13-8s-76, is drilling at 1,580 feet and will go to 1,585 feet and then underream and set 8¼-inch on bottom. The two companies, though similar in name, are in no way connected.

UTAH

The Utah-Pennsylvania Oil Co.'s No. 1, NW NW, Section 3-10n-4w, Penrose district, Box Elder County, is reported drilling in a dry hole at 3,700 feet. Utah Southern Oil Co.'s No. 1 Balsey, NE NE, Section 31-23-21, Salt Valley, is drilling at 550 feet in shale and gypsum. Beaver Valley Oil Co.'s No. 1, NW NE, Section 20-25-9w, Blackrock district, Millard County, is shut down at 3,500 feet with pipe frozen. Virgin Dome Oil Co.'s No. 1, NW NW, Section 16-42-14, Harrisburg district, Washington County, is reported abandoned at 2,171 feet. Mid-American Oil Co.'s No. 1, SE NW, Section 17-43-15, is reported shut down indefinitely at 2,250 feet, and Arrowhead Petroleum Corp.'s No. 1, SW NE, Section 1-43-15, Punchbowl district, is drilling at 860 feet.

WYOMING

Another sale of government leases on a proven structure in Wyoming is scheduled to take place at Cheyenne at 10 a. m., January 16, when the register of the land office will offer at public auction leases on 2,453 acres on the Little Buffalo Basin structure in Big Horn and Hot Springs Counties. This is the second sale of leases in the State since Salt Creek came under the provisions of the oil leasing act in 1920, an offering of leases on the Oregon Basin Dome having taken place in 1930. The land will be offered in four units. The tracts lie within the closing contour of the structure, but are on the flanks on the northern, southern and western sides.

Secretary of the Interior Wilbur formally approved on January 7 an agreement for the unit operation of Government-owned land on the structure and the tracts to be sold will come under this agreement under the terms of the sale. The leases will be sold with a provision that if a discovery of oil is made, or of gas in a horizon known or reasonably likely to contain oil in the same structure, that the lessee shall put said well into condition for indefinite suspension after testing and shut it in until authorized to do otherwise by the Secretary of the Interior. The terms also provide that the lessee shall enter into the plan for unit operation as to gas produced from the Frontier formation and to share proportionately in the cost of developing the Frontier and in the proceeds therefrom. Drilling will be limited to one well to each 40-acre tract and provision is made for compensating royalties where there is drainage and no offsets are put down.

The Little Buffalo Basin was proven for gas in 1914 and 10 wells have been drilled. None of these went far below the Frontier on or near the top of the structure. There has been practically no drilling for a number of years except one gas well drilled two years ago by the Ohio Oil Co. and two wells drilled by the Grebo Royalties, Inc. The gas is being marketed at Greybull, Grass Creek and other towns in that area. The Midwest Refining Co., Ohio Oil Co. and Grebo Royalties, Inc., control all the acreage on the structure except that held by the Government. Most all the land is owned by the federal and state governments. The structure was one of the first in the country to be operated on a unit basis and the recent agreement signed by Secretary Wilbur paves the way for the continuance of this plan by any purchasers of the tracts to be offered for sale. The Frontier is found at around 1,400 feet. Recent discoveries in the Tensleep and Madison on similar structures in the basin indicate that Little Buffalo Basin contains oil in the lower measures.

Salt Creek

A completion in Salt Creek was reported this week in the Wyoming Associated Oil Co.'s No. 29-SD-3, NW NE, Section 26-40-79, which made 1,433 bbls. the first 24 hours from the third bench of the Sundance at a total depth of 2,922 feet. Wyoming Associated's No. 26-SD-3, NW, Section 26-40-79, is drilling at 2,505 feet in hard blue shale.

Geary Dome

Midwest Refining Co.'s No. 11, SE NW NW, Section 32-34-77, Geary Dome, is drilling at 4,775 feet and is due to reach the first Wall Creek at 4,830 feet, or higher. The test drilled near this location in 1921 by the Continental Oil Co. had a show of oil and gas in the first Wall Creek, but lost the hole before reaching the second Wall Creek, the horizon in which the pay was found on the Midway Dome the past summer.

Converse County

Ohio Oil Co.'s No. 5 Jones, Section 9-33-76, Big Muddy, an old well being deepened from the Frontier to the Lakota, is drilling at 3,560 feet with rotary tools.

Park County

Midwest Refining Co.'s No. 31 Rosenberg, SW SE, Section 24-58-98, Frannie Dome, is drilling at 3,440 feet in the red beds. It is just north of a fault crossing the structure and the red beds appear to be much deeper than expected. No report has been received from Resolute Oil Co.'s No. 1 Badger Basin, SW NE, Section 17-57-101, which is supposed to be attempting to sidetrack tools at a total depth of 8,255 feet.

Big Horn County

Ohio Oil Co.'s No. 1 Smith, Lot 61, Section 33-56-97, Garland Dome, is drilling at 115 feet. It is reported to be a well to the shallow gas sand, but it may be taken down to the Madison lime where oil was found in the discovery well in that horizon on the same section.

Fremont County

Midwest Refining Co. posted a price of 70 cents per barrel, effective January 1, for crude from the Atlantic-Pacific and Woodson Oil Co. wells and 75 cents for Hudson Oil Co. crude in the Lander district. This is a reduction of 10 cents for Dallas-Derby and 5 cents for Hudson crude.

The Texas Production Co.'s No. 1 State, SW SW, Section 36-34-95, Alkali Butte, was still sidetracking casing at last reports. Lander Corp.'s No. 2, Section 35-33-99, Bartram Gap, is drilling at 206 feet. It is near No. 1, NW NE, Section 35, which had a show of gas in the Embar, but in which the hole was lost at 1,550 feet. Producers & Refiners Corp.'s No. 10, NW cor., Section 14-32-95, Sand Draw, is coring black shale at 4,106 feet and has reamed to 4,105 feet.

Carbon County

Producers & Refiners' No. 3, SE NW, Section 2-19-88, Hatfield, is drilling red rock at 4,528 feet.

Rocky Mountain Production

Average daily runs from fields week ending January 10:

WYOMING	
Salt Creek	22,120
Big Muddy	1,920
Grass Creek	2,040
Elk Basin	730
Dallas	380
Frannie	820
Hudson	200
Lovell	10
Teapot	20
Warm Springs	90
Rock River	2,140
Lance Creek	140
LaBarge	1,800
Poison Spider	250
Oregon Basin	2,890
Osage	1,200
Ferris	40
Byron	10
Lost Soldier	3,160
Simpson Ridge	90
Dutton Creek	140
Midway	70
Total Wyoming	41,260
MONTANA	
Cat Creek	1,130
Lake Basin	50
Kevin-Sunburst	4,470
Pondera	1,470
Border	500
Dry Creek	580
Total Montana	8,200
COLORADO	
Florence	460
Moffat	900
Fort Collins	1,140
Iles Dome	1,020
Rangley	50
Tow Creek	400
Boulder	20
Orchard	150
Total Colorado	4,140
NEW MEXICO	
Rattlesnake	1,000
Hogback	420
Table Mesa	60
Artesia	650
Cap Rock	356
Getty	90
Hobbs	32,145
Jal	1,300
Lea	3,495
Eunice	2,260
Texas Pacific area	250
Total New Mexico	42,026
Total Rocky Mountain	95,626
Total previous week	102,119
Difference	6,493

MONTANA

Carbon County

A log of the Ohio Oil Co.'s No. 2 Northern Pacific, NE NW SE, Section 11-7s-21, Dry Creek, the discovery well which came in last September, indicates that production was found in the Lakota, or second member of the Dakota series. The 6⅝-inch was cemented at 5,410 feet and at 5,412-15 feet it was in a hard gray sand which showed some oil. This sand, the Dakota, continued to 5,460 feet when the hole entered a sandy shale. The next horizon, a hard white sand in which oil and gas were found, was at 5,505-10 feet. The total depth was 5,510 feet. The company is shipping an average of 500 bbls. a day to the Utah Oil Refining Co. at Salt Lake City. It is putting up a 10,000-bbl. receiving tank at the Bridger loading racks to facilitate shipments. Ohio's No. 1 Montana Industrial, SE SW NE, Section 11-7s-21, is drilling at 1,300 feet. Same company's No. 1 Sounder, Section 2-7-21, is spudding at 64 feet.

Liberty County

Western Natural Gas Co.'s No. 1 McHoney, C SE NW, Section 23-37-4e, Whitlash district, was completed in the Sunburst sand at 2,063-68 feet with a flow of 9,000,000 feet of gas with a pres-

sure of 600 pounds. The top of the Kootenai was at 1,715 feet. Rig is up for its No. 2 McHoney, C SE NW, Section 21-37-4.

Pondera County

One completion in the Pondera Field was reported in Hawley and others' No. 2 State, SE cor., Section 16-27-4w, a 15-bbl. pumper at 2,008-18 feet.

Toole County

Ashalta Oil Co.'s No. 1 Volbrecht, NE cor. SE, Section 11-37-4w, Border Field, is drilling at 1,650 feet. This location is on the west side of the field and will extend the area. International Royalty Holding Co.'s No. 1 Henry, SW cor., Section 26-35n-3e, Grandview, is shut down at 2,464 feet after landing the 8¼-inch at 2,455 feet and drilling through a gas sand that proved to be only 1 foot thick.

Glacier County

The B. & H. Oil Co.'s No. 1 Haines, SE SE, Section 2-34-6w, Headlight district, is bottomed at 2,670 feet. It has sidetracked pipe and will run the 8¼-inch and attempt to sidetrack tools. Hill & O'Neill's No. 1 Michaels, C SE SE, Section 20-36-5w, Round Lake, set the 6¼-inch on bottom at 2,890 feet and is about ready to drill in. It topped the Kootenai at 2,360 feet, which indicates that the well is about 145 feet lower on structure than the gas discovery well in Section 28.

Rosebud County

Prairie Oil & Gas Co.'s No. 1-X N. P., Contract 3, Section 26-10n-39, Porcupine Dome, is drilling at 2,075 feet in gray shale, and its No. 1, Contract 4, SW SW, Section 28-11-39, is drilling out plug at 1,265 feet.

CONCRETE COVERINGS FOR PIPE LINES

(Continued from Page 62)

to 1,000 pounds per square inch were built up in 100-pound increments, held for a time, released, and again built up. This was repeated many times. At some point between 900 and 1,000 pounds a longitudinal hair line crack developed in the unreinforced section of covering applied directly to the pipe. An increase in diameter of 0.00011 inch was recorded by the strain gauge on the unreinforced section. None of the other sections cracked under the applied pressures. The unreinforced section over the asphaltic emulsion showed an increase in diameter of 0.00005 inch at 1,000 pounds pressure.

The value of the reinforcement was shown clearly, as was the value of the asphalt emulsion. Due to the inevitable abuse incidental to handling and placing the pipe in the trench, it is recommended that reinforcement always be used. Reinforcement is particularly important when coverings are applied in a central plant and the covered pipe then hauled to the site.

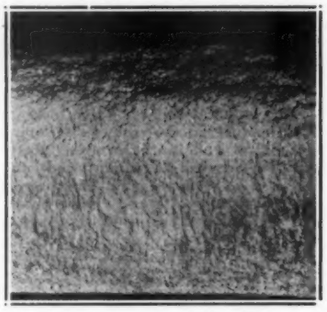


Figure 7—Protective coating of 1-2½ reinforced Gunite, ¾ inch to 1 inch thick. Reinforcement is essential with the use of Gunite to insure adherence of the unhardened material to the pipe.

Similar tests were made to determine the value of a Gunite covering. One-half of a 10-foot length of 8-inch pipe was covered with three-fourths inch of Gunite, the other half with a 1-inch covering, both reinforced with 2"x2" No. 12 welded wire mesh. The Gunite was applied by the Cement-Gun Co. A 1-3 mixture was used, and it was estimated that a 1-2½ mix remained on the pipe.

After 14 days' hardening and curing, the covered pipe was submitted to repeated internal pressures of 1,000 pounds per square inch. No visible cracks nor any signs of failure appeared in the Gunite covering. It was found that the covering was not of constant thickness, varying from one-half inch to 1 inch. Also there was considerable waste of materials with the method used for applying the Gunite. On pipe of larger diameter, a more uniform Gunite covering could be placed, and there would be materially less waste. Gunite is particularly adaptable as a pipe line coating when applied in a central plant. The quality of the material is such that it would undoubtedly give satisfactory service.

The following pertinent facts about concrete for protective coatings indicate the practicability of the material and the limitations under which it should be used:

1. The durability of a dense concrete made with 5 gallons of water or less per sack of cement in the presence of the most severe sulphate soil and water conditions is definitely known. By 5 gallons of water per sack of cement is meant all water incorporated in the mix, including the surface moisture on the sand and stone.

2. A dense concrete with 5 gallons of mixing water or less per sack of cement may be placed in a 1-inch covering around pipe of any diameter with the use of a vibrator attached to the form.

3. Concrete made with both sand and stone particles is more economical than mortars consisting of cement and sand. It is likewise more durable. Mortars, due to the excess fine material, require more water than concrete with the same condition of workability and placeability. The fundamental requirement of concrete for pipe line covering is that the total water must be held below 5 gallons per sack of cement.

4. Vibrating the form affords a practical means of placing dense concrete in a thin reinforced layer around a pipe. Within the limits of consistencies tending toward segregation due to too wet a mixture and honeycombing due to too dry a mixture, concrete of a definite water-cement ratio can be made placeable by adjusting the proportions of aggregates. With the use of a vibrator more aggregate can be incorporated and yet produce a placeable mixture, which tends to reduce the cost of the concrete. The saving made by the use of more aggregate and earlier handling of the pipe may offset the cost of vibration.

5. Concrete coverings may be placed on pipe in a central location, and after proper curing until the covering has hardened, the covered pipe may be hauled to the laying site; or the concrete may be placed after the pipe is welded or joined alongside the trench. When made in a central location, the advantage of additional curing before the pipe is handled may be gained. Such curing should consist of keeping the concrete moist for a period of one week or longer immediately after it is made, or steam curing for two days.

6. Concrete coverings should be at least 1 inch thick. About 0.3 per cent reinforcement should be placed circumferentially around the pipe, with sufficient longitudinal wires to hold the main reinforcement in position. A 2"x6" mesh, No. 13 by No. 13 wire with the 2-inch spacing running circumferentially is suggested for a 1-inch covering. A 3"x6" mesh No. 12 by No. 12 wire provides the equivalent area, and in some cases may be more economical. Reinforcement should be carefully placed so as to be located in the center of the covering. It is important that the reinforcement have a minimum of one-half inch protective covering. If a vibrator is not used to compact and place the concrete, a greater thickness should be used, to insure the placement of a dense, low water-cement ratio concrete free from honeycombing and segregation.

7. A concrete covering of necessary quality can be placed as quickly as, and in many cases much faster than, any other type of applied coating.

8. Soil stresses which produce distortion or disruption of plastic or semiplastic materials will not affect a concrete coating.

9. Concrete protective coverings are not subject to disruption due to back fill in locations of rock cut and unusually deep trenches.

10. The use of concrete as protective coverings on pipe lines is not a new and untried method. The following list indicates a few cases where it has been used successfully. In every case where concrete of definite quality has been employed, resistance to corrosion has been secured.

(a) The Temescal Water Co., Corona, Calif., in 1914 coated 8 miles of 10-inch to 30-inch pipe with 3 inches of concrete. After 16 years' service the pipe and coating are in excellent condition.

(b) Between 1913 and 1920, the Standard Pipe Line Co. coated 180 miles of 8-inch oil line with a 1-3 cement and coarse sand mortar. Located in Louisiana swamp land, this coating has given

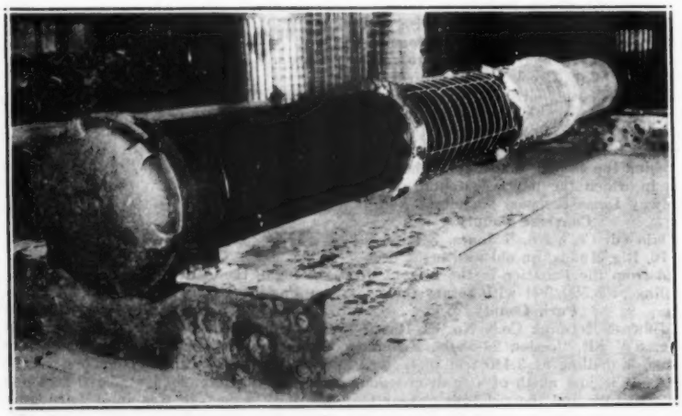


Figure 8—Sawn sections of 1¼-inch pipe covering disclose the dense, compact nature of the concrete, free from voids and honeycombing. The close arrangement of the particles of sand and gravel indicates that the maximum amount of aggregate has been used, thus securing the greatest economy. The correct amount of cement-water paste binds the mass together, resulting in a concrete that is strong, durable and watertight. The mixture was proportioned 1-1¼-3 with 4¾ gallons of water per sack of cement. Tested in compression at the age of 14 days, this concrete resisted 4,000 pounds per square inch.

Figure 4—Pipe divided into four sections for test to determine the effect of internal pressures on the concrete coating.

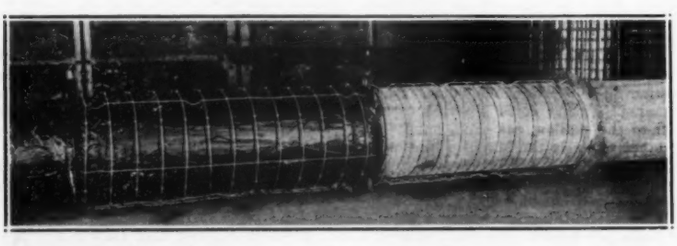


Figure 5—The coated and uncoated reinforced sections, showing method of crimping wires to hold reinforcement in correct position. After the concrete covering had been placed and cured 14 days, repeatedly applied internal pressures of 1,000 pounds per square inch did not cause the 1¼-inch thick concrete covering to crack. The asphalt emulsion under the concrete is not needed when reinforcement is used.

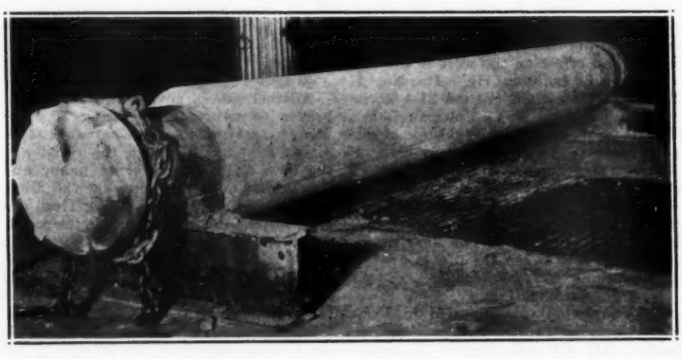
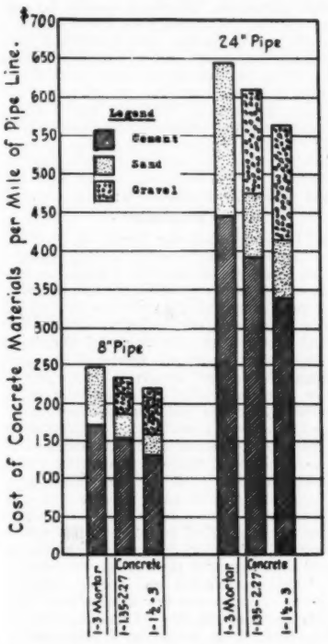


Figure 6—Concrete protective covering 1¼ inches thick, placed by electric vibration of the form. The mixture and equipment shown in preceding figures and described in the accompanying text were used. The concrete is dense and free from honeycombing. With concrete mixtures used in these experiments the forms may be removed in six hours and the covered pipe may be handled with reasonable care in 24 hours.

perfect protection and has required no repairs or replacement.

(c) To check serious disintegration of steel pipe by alkaline soils, the Dominquez Water Co., Los Angeles, Calif., has coated more than 8 miles of 8-inch to 30-inch water lines with 2 to 3 inches of reinforced mortar made in the proportions 1 part cement to 2 parts sand. The first coating was applied in 1917. This cov-



Comparative costs of concrete materials required per mile of pipe line for different mixes based on Engineering News-Record Current Costs—f.o.b., Chicago, November, 1930. Note the savings effected by using concrete instead of mortar, and by using a 1-1½-3 mix instead of a 1-1.36-2.27 mix. The water-cement ratios have been held constant at 4¾ gallons per sack of cement for all mixes, resulting in the same quality of concrete, yet a saving of 12 per cent in the cost of material is made by using 1-1½-3 concrete instead of 1-3 mortar. This saving is in the cost of materials alone and does not take into account an additional saving that will accrue from easier and more rapid placement of the concrete mixture.

ering has given perfect protection and has required no repairs or replacements for 13 years.

(d) Several years ago, the Sweetwater Water Co. at Laguna Beach, Calif., coated 8 miles of 30"x$\frac{5}{16}$" steel plate pipe line with a thin coating of Gunite applied over light reinforcement. This covering is in excellent condition, and the pipe is free from any trace of corrosion.

(e) At the present time, the Indiana Pipe Line Co. is reconditioning oil pipe lines by coating with a 1-3 cement and sand mortar, placed by means of a sheet metal form very much similar to the one described herein. A crew of 10 men can clean the pipe, place the forms and mortar on 1,000 lineal feet in less than 10 hours.

WOULD ABANDONING PRORATION BE CURE?

(Continued from Page 64)

any person, firm or corporation, having the right to drill into and produce oil from any such common source of supply, may take therefrom only such proportion of all crude oil and petroleum that may be produced therefrom, without waste, as the production of the well or wells of any such person, firm or corporation, bears to the total production of such common source of supply. The Corporation Commission is authorized to so regulate the taking of crude oil or petroleum from any or all such comomn sources of supply, within the State of Oklahoma, as to prevent the inequitable or unfair taking, from a common source of supply, of such crude oil or petroleum, by any person, firm, or corporation, and to prevent unreasonable discrimination in favor of any one such common source of supply as against another."

Section 7,957, C. O. S.

Other sections of the law prohibit the production of crude oil under conditions constituting waste and particularly prohibit physical waste, "surface waste," "underground waste," and "waste incident to the production of crude oil or petroleum in excess of transportation or marketing facilities or reasonable market demand."

Two Fundamental Functions

Enforced proportional limitation upon production, or "proration" has two fundamental functions:

First. It is an instrumentality of the State to prevent waste by, (a) removing the incentive to waste by fairly dividing the market among all the producers in the pool, and by, (b) removing the compulsion to waste by preventing the drainage which would arise from disproportionate taking and which, in turn, has so often caused operators without pipe lines to flow oil into earthen pits in self defense.

Second. It protects the co-equal rights of the producers, large and small. These co-equal rights, as described by the Supreme Court of the United States and the Supreme Court of Oklahoma include where overproduction and consequent waste are imminent, the right to secure a fair distribution of the market outlet of a given pool and of the privilege of producing therefrom and to prevent a disproportionate or wasteful use of the common gas pressure so vital to the successful production of the oil.

Not a Price Fixing Device

Opponents of proration have referred to it as a price fixing device. They contend that its sole purpose is to limit the production in Oklahoma in order to increase the price of crude oil or to hold the price up artificially. It is not true that proration as officially applied by the Corporation Commission of Oklahoma is a price fixing device. The commission has taken pains to set forth clearly in its findings of fact, as contained in its orders, that its efforts have been directed toward prevention of waste and protection of co-equal rights of producers and that if proration has had any effect upon prices of crude oil or refined products the same has been purely incidental. Since the promulgation of this finding the price has declined so that the total decline since October, 1926, has now reached 50 per cent.

With reference to the incidental effect which proration may have on the price of oil, the concurring opinion of Justice Hunt in the case of Julian Oil & Royalties Co. vs. Capshaw et al, 292 Pac. 841, contains the following comment:

"If as an incident of this prevention, the laborers and smaller, as well as larger producers of oil, and those who sell goods and loan money to those engaged in the oil business, are kept out of financial distress, then that result is commendable and cannot permit any basis for an objection to the law, if otherwise, valid."

But the opponents of proration say that this "incidental effect" is quite pronounced and that if proration were lifted here and elsewhere the price of oil would go down to the 25 or 30-cent level of Cushing days and perhaps to the 10-cent level of Spindletop days; and for some inscrutable reason they urge that the experiment of lifting proration be tried in order to vindicate their dire predictions.

Discrimination as Between Pools

Another objection which has been voiced with reference to existing proration orders is that certain pools in the State have been curtailed in production more severely than others. The assertion is made that each pool ought to be permitted to produce the same percentage of its potential production as other pools. Such uniform percentage as between pools would be ideal if conditions would permit it. But it must be borne in mind that some of the pools are much older than others and have a better developed market outlet than newer pools have; that many pipe lines may be in one or more pools but not in others and that purchasers may, for sufficient reasons, desire to purchase from certain pools but not from others. These matters have all been considered by the operators and the Corporation Commission, and the latter has said the following in its orders:

"The commission finds from the evidence that the curtailment and the varying percentages as between pools prescribed in the schedules contained herein are necessary and reasonable in order to reduce production in this State to the reasonable market demand and in a manner least injurious to the producers and royalty owners as a whole, and in order to prevent unfair and unreasonable discrimination in favor of any one pool or common source of supply as against another.

Percentages Necessary

"The commission finds that the varying percentages of curtailment as between pools as set forth in this order are necessary, fair and reasonable because of the peculiar conditions in each case and in this, to-wit: That said pools are not all served in common by the same pipe lines and purchasers; that the reasonable market demand from certain of them is greater in proportion to potential production than in the case of others; that some of them are older than others and have been prorated longer than others, under orders of the Corporation Commission with a consequent greater reduction in potential flow and smaller possible production per well per day and are, therefore, accorded a higher percentage allowable production; that in many cases individual pools are served by local purchasers whose facilities cannot be extended to the others, and in certain of the pools the sand and water conditions prevent as great curtailment as is possible in others, and that in certain pools there is a more intensive drilling campiagn and wells of larger capacity than in others. The commission also finds that in the making of said schedule the producers and purchasers in all of said pools were consulted and meetings of said producers and purchasers were held at which all of the foregoing factors were considered and that said schedule represents the consensus of opinion of said producers and purchasers as to reasonableness of arrangement, necessity and convenience of producers and purchasers and equity as between the various common sources of supply under present circumstances.

"The commission finds that the basis of classification of pools for the application of the varying percentages of curtailment as shown by the schedule herein is the existing relation between the potential production of each pool and the amount of crude oil which can be produced from said pool without waste. That because said relation is not the same in all pools involved, the percentages of curtailment must necessarily vary as between pools. A uniform percentage applied to all pools would result in the permitted production from some of them being less than the reasonable market demand therefrom, while in others the permitted production resulting from such uniform percentage would exceed the amount which could be produced therefrom without waste."

The commission, in its orders, has repeatedly called attention to the Oklahoma City Pool situation and has made its orders flexible so that any increases in market demand could be immediately allowed.

If it be argued that the commission's finding of a rated potential production in the United States is too high, it can be answered that it is supported by expert testimony and it is obvious that if the figure of 10,000,000 bbls. be discounted half the potential is still twice as much as needed.

Historical Facts Concerning Proration

Conditions in the Oklahoma oil fields under proration as administered today should be contrasted with what occurred in flush pools before proration was prescribed by law. The veterans in the industry remember Glenpool, Healdton and Cushing and quite recently we have seen Smackover in Arkansas and, more recently still, certain pools in Texas, where, in the absence of proration, disproportionate taking occurred, earthen storage was resorted to and many small producers were ruined by drainage and lack of marketing facilities. The following paragraph is taken from the records of the findings of the Corporation Commission during the Healdton overproduction:

"Within 60 days prior to the hearing, there had been from 150,000 to 200,000 bbls. of oil taken from the field under what is known as 'common carrier' runs to the Pierce-Fordyce refinery at Fort Worth. The evidence further disclosed that certain properties had been producing oil greatly in excess of the pro rata amount based on the average daily consumption; that the 150,000 bbls. of oil which had been run as 'common carrier' runs were produced by one property of comparatively small acreage. The commission has ascertained outside of the record that at one time more than 600,000 bbls. of oil had been placed in earthen storage; that at the time of the hearing, most of this oil had been removed. It was shown that oil had been recently pumped from wells and placed in earthen storage. (We are informed, out of the record, that as a result of heavy rains during the month of May much of this earthen storage was carried off by the floods and that it greatly injured the crops and vegetation on farm lands, and also the water supply, particularly stock water.)"

The same records show that oil was dammed up in creek beds at Cushing in 1914 and the independent producers who had no pipe lines or steel storage were asking the commission for relief from the drainage which was being inflicted upon them by producers who had pipe line affiliations or storage facilities and who could produce their wells to capacity while the independent, nonintegrated producer was compelled to remain shut down for lack of a market outlet. There are many reputable citizens who can testify to the loss of valuable oil properties in the Cushing Field because of the lack of proration and the drainage of their properties by more powerful concerns.

Millions of Barrels Wasted

In recent years the Smackover Field in Arkansas reached the flush stage and, without proration, many millions of barrels of crude were thrown into earthen pits where much of it seeped into the sandy soil and more of it was taken down the streams by freshets. To this day the black scars made by earthen storage stand as mute evidence of the waste which attends unrestrained overproduction of crude oil.

Conditions became so bad at Healdton and Cushing that the independent and nonintegrated producers went before the Oklahoma legislature in January, 1915, and petitioned it to exercise the State's police power to prevent waste and to protect the co-equal rights of the producers. After extended hearings the Conservation Act of February 11, 1915, was passed and approved. As drawn it was based squarely upon the decision of the Supreme Court of the United States in the case of the Ohio Oil Co. vs. Indiana and has since been approved as a valid exercise of the police power by the Supreme Court of Oklahoma and by a three-judge Federal court.

Principles Developed by Experience

Recently, certain town-lot producers in the Oklahoma City Field who have procured or built private pipe lines connecting their wells with local refineries have been very insistent upon their alleged right to produce their wells to capacity while their neighbors' wells remain wholly or partially closed in for lack of market outlet. They object to proration or proportional production. They advance the same arguments as did some of the big companies in 1915. They say that because they have procured private facilities or private offers to buy crude oil from them and are thus equipped to produce their own oil without themselves committing waste, they have a right to produce their wells disproportionately and that the less fortunately situated producer has no right to complain over resulting drainage, etc. But to state the proposition is to answer it. For if an exception must be made in favor of each refiner with a pipe line and in favor of each producer with an alleged private outlet which he is unwilling to share with others, no proration or proportional taking could ever be accomplished. We have seen that in the absence of proration waste ensues in those pools where the

potential production exceeds the market outlet. So the statute says that whenever the full production of the pool cannot be taken, proration must be enforced. It does not say that when any one operator in such a pool is equipped to produce his full production without himself committing waste there shall be no proration—nor does it say that proration shall only occur in those pools where no operator is thus equipped, but it is when the full production from the pool cannot be taken that proration must apply and it must be applied to all. It is of the essence of fair proration that all conform.

Legislature Has Three Alternatives

It has been well said that without the power to enforce proportionality of taking the Corporation Commission or any other state agency would be powerless to prevent waste. And so it is understood that the enemies of proration are organizing to ask the legislature to repeal the proration statute. It is respectfully urged that the legislature examine with care the motives of those who so loudly demand the repeal of the law. If they have honest motives they will not object to the examination. If they have selfish or ulterior motives they ought not to be heard to object.

In the final analysis and owing to the nature of the subject matter, there are but three alternatives for the legislature to choose from. It is a matter of legislative wisdom and discretion. The three alternatives which the 1915 legislature had before it and which the present legislature has before it are:

(1) To ignore waste and violation of co-equal rights of producers which have universally occurred under similar circumstances in the past—disregard the loss of state revenue and the exhaustion of natural resources by repealing the law in its entirety and refusing to exercise the State's police power in the premises at all. This would reinaugurate the regime of "dog eat dog" according to the ancient jungle custom.

(2) To retain a general prohibition against commission of waste but repeal the section providing for proration so that no one would have authority to compel producers to submit to proportional taking. In a pool where the potential production exceeded the combined outlets only those who had pipe lines and could therefore produce their own oil without themselves committing waste would be permitted to produce. Others would have to remain shut down and suffer drainage as a penalty for being insufficiently equipped to weather the storm. Both the first and second alternatives would be tantamount to saying to the Oklahoma citizen who has a legitimate ambition to engage in the oil producing business and to the farmer who owns royalty—you must stay out of the oil business altogether or if you enter it, do so at your peril, for if you find yourself in distress in a pool where the full production cannot be marketed and you have no private outlet the State will not exercise its police powers to compel ratable taking nor protect you from drainage.

(3) To leave the law as it is and accept only such amendments as will strengthen it and make it more effective for the purpose intended.

The great majority of producers of oil who possess a sense of industrial responsibility believe that the law should not be emasculated nor repealed until sober, dispassionate study shall reveal a better solution of the problem than those mentioned in the foregoing statement of alternatives.

Economic Importance of Proration

While one can easily understand the attitude of the refiner or the producer with a private outlet for his oil who insists on being exempted from proration, it must be borne in mind that an emergency is presented—that if one is exempted all must be and that serious and far-reaching consequences are involved. There are 47,500 old small wells in the State whose average production per well per day is about 3 bbls. This includes some 25,000 with an average of less than a barrel per well per day. These wells are in distress now. They cannot long compete with unrestrained production from large flush wells. If proration is lifted in the flush fields these old small wells will have to be abandoned. In the aggregate, they represent a daily production of about 140,000 bbls. at this time and in 10 years, allowing for normal decline, they would produce an accumulated total of 357,368,850 bbls. which, at reasonable prices, would yield a total gross value of $536,053,275. This sum at 3 per cent would mean a revenue to the State, under the present gross production tax, of $16,081,598.25, distributed over the 10-year period, but which would be lost if these small wells should be abandoned. With proration continued past the present emergency and an improvement in the general situation these wells can be saved. Their destruction by lifting proration involves the loss of a great natural resource. Abandonment of these wells would deprive more people of a livelihood, and throw more men out of employment than any possible results of lifting proration would employ.

The producers cannot say with confidence whether proration in Oklahoma has affected the price or not. Opponents of proration say that it holds the price up and that if proration were lifted the price would go down to 50 cents a barrel or perhaps to as low as 25 cents a barrel, and they argue that this would be a good thing for the oil industry and the State of Oklahoma. Without agreeing with their conclusions nor asserting the correctness of their estimate on price, we desire to point out that such results would have entailed great loss in revenue to the State and in gross income to the producers and royalty owners during the past two years. The accompanying schedule, based upon the difference between what was received for Oklahoma oil in 1929 and 1930 compared with the price of 25 cents a barrel, 50 cents a barrel and 75 cents a barrel, which are prices which the opponents of proration have mentioned as the result of lifting proration, is submitted for consideration:

Loss to State and Producers

From the accompanying table it is apparent that if the opponents of proration are correct in their statement that the lifting of proration would cause a decline in price to 75 cents, 50 cents or 25 cents, the loss to the State in revenue and to the producers and royalty owners in gross income, during the two-year period, would have been as follows:

	State loss in taxes	Producers' loss in gross income
On 75-cent basis..	$8,456,910	$281,897,000
On 50-cent basis..	11,996,940	399,898,000
On 25-cent basis..	15,536,970	517,899,000

In the opinion of the industry, very little if any more oil could be marketed from Oklahoma at lower prices because if prices fell here as a result of lifting proration they would fall everywhere for the same reason and since the petroleum markets are saturated already with crude oil and gasoline, very little additional oil could be forced upon the market.

Since the gross income of the producer is now used up in operating and carrying charges, a decrease therein as indicated by the above table would indeed be a disaster. It would be a disaster not only to the producer but to the royalty owner, the merchant, the banker, and the farmer and, particularly, to the state treasury.

Conclusion

Anyone who, in good faith, seeks to make a proper appraisal of this whole subject should contemplate a great industry in the throes of overproduction, striving with all its strength to escape the demoralization which the contemporaneous existence of a number of large flush pools seems to portend—with 90 per cent of the industry co-operating with the Corporation Commission in this State and with proper state agencies in other States to do a constructive thing—while a few, a small minority, actuated by either selfishness or by what they regard as their temporary necessities, insistently demand the overthrow of constructive measures now in force.

Every order of the Corporation Commission has been preceded by state-wide open meetings of operators without regard to membership in any association, and by group meetings of producers in the particular pools. No snap judgment has been taken. Marked unanimity characterized these meetings; the objectors, if any, were few; generally the meetings were unanimous in approving the proration plans suggested. These were followed by open hearings before the commission where everyone interested was invited to testify and submit his own plans or to criticize those proposed by others. Anyone aggrieved had a right to appeal to the Supreme Court to have the reasonableness and justice of the order reviewed. No such appeal was ever taken. On the one application for a writ of prohibition the law was held constitutional and the order not unreasonable. The orders are made to cover only brief periods of from one to three months so that changing conditions may be noted and recognized.

In the administration of the law the commission, of course, must use agents in the field. Their duties are ministerial; they superintend the execution of the commission's orders and make reports. Chief among these are Ray M. Collins and Otto Bradford. These umpires are appointed by the commission under express authority of the statute and approved by the governor. Both these men have had experience in the oil producing business and their honesty and capability are beyond question. Collins, the state-wide umpire, is a man of long experience and rare, good judgment. Because the State has no funds with which to pay them they are paid out of a common fund created by prorating the expense among all the producers in the flush and semiflush pools in proportion to production of each operator therein. They are not paid by the big companies exclusively as charged but by all interested, and proportionately. A few operators, who oppose proration, have refused to contribute their pro rata share.

The administration of the law has been embarrassed temporarily and from time to time by minor violations by operators but for the most part they have been made up and the temporary inequalities within pools corrected.

Discouraging Demand

The discouragingly small demand for oil from the Oklahoma City Pool has caused much dissatisfaction and doubtless has caused financial distress in the case of a number of operators and investors. As hereinbefore stated, everyone connected with proration has done his utmost to procure a greater market demand for the oil from that pool. The Statewide Proration Committee and the Mid-Continent Oil & Gas Association have called the attention of the major purchasers to the situation and some of them have responded by taking more oil from the Oklahoma City Field than they actually needed; but the total demand is still very low and this fact is charged against proration. But as shown herein it is not due to proration but is due to the general overproduction and to imports and to other causes over which we here in Oklahoma have no control. Every operator and citizen in Oklahoma would be glad to see the Oklahoma City Field obtain a much larger market outlet and the commission has consistently framed its orders to recognize and allow such an increased market demand as soon as presented.

On January 6, 1931, the board of directors of the Oklahoma-Kansas division of the Mid-Continent Oil & Gas Association adopted the following resolution endorsing the conservation law of 1915 and the principle of proration:

Resolution

"Resolved that the board of directors of the Mid-Continent Oil & Gas Association hereby endorses the Oklahoma conservation law of 1915 and the principle of proration and that we are opposed to any repeal or emasculation of the law that would leave the State of Oklahoma powerless to prevent waste of its irreplaceable natural resources or to protect the co-equal rights of oil producers in pools where the potential production exceeds the transportation or marketing facilities or reasonable market demand of the pool as a whole. Proration, when fairly administered in accordance with the provisions of said law, is the only means now known to the industry which can be availed of to protect the noninegrated producer against discrimination and drainage and thus to prevent waste.

"This association has openly supported the conservation law and believes that the repeal of the law or abandonment of its enforcement would be a policy of reaction and against the public interest."

Other similar resolutions have been passed by mass meetings of producers in the shallow sand districts of northeastern Oklahoma and by the producers in southern Oklahoma, at Ardmore and Duncan.

E. A. CLARK TO PITTSBURGH

E. A. Clark, formerly connected with the Oklahoma Natural Gas Corp. of Tulsa, and vice president of the Charleston Group of Columbia Gas & Electric Corp., since March, 1930, has been transferred to Pittsburgh, Pa., where he will become vice president of the Pittsburgh Group of Columbia Gas & Electric Corp., with offices in the Union Trust Building.

MEXICAN EAGLE OUTPUT

NEW YORK, Jan. 12.—Production of crude petroleum in Mexico by Mexican-Eagle Oil Co. during 1930 is estimated at 12,858,000 bbls. in a progress report issued in London by the company. This compared with output of 11,954,048 bbls. in 1929 and 6,079,807 bbls. in 1928. The company is erecting a vapor-phase cracking plant at its Tampico refinery, and the new unit is expected to go into production early this year.

HARRY H. HARRINGTON DEAD

Harry H. Harrington, one of the best known natural gas men in the eastern and Mid-Continent fields, died recently in Madisonville, Ky., where he was employed by the Missouri-Kansas Pipe Line Co. in its field operations. The body was taken to his former home in Bradford, Pa., where the funeral was held.

ANALYSIS OF OKLAHOMA CRUDE OIL PRODUCTION

Year—	Crude oil produced	Average price paid per barrel	Total value of crude oil produced	Probable value per bbl. without proration	Probable total value without proration	Estimated total G. P. tax under proration	Estimated G. P. tax without proration	Net loss of income without proration	Net loss of tax without proration
1929	255,004,000	$1.43	$364,650,000	$0.25	$63,751,000	$10,939,500	$1,912,530	$300,899,000	$9,026,970
1930	217,000,000	1.25	271,250,000	0.25	54,250,000	8,137,500	1,627,500	217,000,000	6,510,000
Total	472,004,000	1.35 (av.)	635,900,000	0.25	118,001,000	19,077,000	3,540,030	517,899,000	15,536,970
1929				0.50	127,502,000	10,939,500	3,825,060	237,148,000	7,114,440
1930				0.50	108,500,000	8,137,500	3,255,000	162,750,000	4,882,500
Total				0.50	236,002,000	19,077,000	7,080,060	399,898,000	11,996,940
1929				0.75	191,253,000	10,939,500	5,737,590	173,397,000	5,201,910
1930				0.75	162,750,000	8,137,500	4,882,500	108,500,000	3,255,000
Total				0.75	354,003,000	19,077,000	10,620,090	281,897,000	8,456,910

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 100)

Danciger O. & R. Co.'s No. 2 Sullivan, 231 ft. N, 884 ft. W of E 160 ac. of S 264 ac., N½, Sec. 136, Blk. 3, H.&G.N. Sur. ..... Estimated 6,000,000 ft. gas 2,997-3,065 ft; S.O. 3,155-69 ft; drlg. 3,200 ft; swbd. 40 bbls. in 24 hrs. from lime pay 3,155-69 ft.

Empire G. & F. Co.'s No. 1 Sullivan, 330 ft. NW of E 64 ac. of W 104 ac. of S 264 ac., N½, Sec. 136, Blk. 3, I.&G.N. Sur. ..... 1,000,000 ft. gas 2,775 ft; S.O. 3,-135 ft. and 3,210-12 ft; T.D. 3,-598 ft; P.B. to 3,238 ft. and shot with 220 qts. from 3,202-38 ft; swbng. 12 bbls. per day.

Empire G. & F. Co.'s No. 1 Wall, 990 ft. S and W, NW, Sec. 161, Blk. 3, I.&G.N. Sur. ..... Location.

Empire G. & F. Co.'s No. 1 Ruscoe, 1,320 ft. N, 660 ft. E, W½ SE, Sec. 111, Blk. 3, I.&G.N. Sur. ..... Spudding.

Hurst et al's No. 1 Ayres, 330 ft. S and E, Sec. 76, Blk. 3, I.&G.N. Sur. ..... Rotary rig.

Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W, cor. SE, Sec. 200, Blk. B-2, H.&G.N. Sur. ..... Fishing tools 2,770 ft. (correction on depth).

Magnolia Pet. Co.'s No. 2 Heitholt, 150 ft. S, 1,156 ft. W, SE, Sec. 152, Blk. 3, I.&G.N. Sur. ..... Set 8-in. csg. 2,300 ft; standardizing.

Magnolia Pet. Co.'s No. 2 Latham, 175 ft. N, 150 ft. E, Sec. 153, Blk. 3, I.&G.N. Sur. ..... 5,000,000 ft. gas 2,770-2,885 ft; S.O. and 2,000,000 ft. gas 3,125-40 ft; drlg. 3,187 ft; swbng. 87 bbl. per day.

Magnolia Pet. Co.'s No. 1 Eddington, 330 ft. N, 370 ft. E, NE, Sec. 34, Blk. B-2, H.&G.N. Sur. ..... Drlg. 300 ft.

Magnolia Pet. Co.'s No. 1 Morse, 330 ft. N and W, S½ NE, Sec. 5, Blk. 26, H.&G.N. Sur. ..... Drlg. 1,710 ft.

Magnolia Pet. Co.'s No. 2 Sailor, 330 ft. S and W, E½ NE, Sec. 138, Blk. 3, I.&G.N. Sur. ..... Bldg. rig.

Mazda Oil Co.'s No. 1 Combs & Worley, 330 ft. S, 180 ft. W, NE, Sec. 35, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,635 ft; S.O. 2,600-10 ft.

Midgray Oil Co.'s No. 1 McCullough, 267 ft. N, 150 ft. E of 246.9 ac. in Sec. 153, Blk. 3, I.&G.N. Sur. ..... Drlg. 3,310 ft; S.O. 3,155 ft. and 3,200-09 ft.

Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur. ..... Fishing for bit; T.D. 2,620 ft.

North American O. & G. Co.'s No. 1 Sullivan, 1,320 ft. S and E, Sec. 160, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,400 ft.

Operators Royalty & Prod. Co.'s No. 2 Vanniman, 330 ft. S and W, E½ NE, Sec. 175, Blk. 3, I.&G.N. Sur. ..... Rigging up.

Phillips Pet. Co.'s No. 1 Barrett, 330 ft. S, 150 ft. W, W½, N 56 ac., Sec. 1,360, Blk. 3, I.&G.N. Sur. ..... Making 60 bbls. oil per day and 3 ballers wtr. per hr; T.D. 3,405 ft.

Phillips Pet. Co.'s No. 2 Barrett, 130 ft. N, 465 ft. W, Sec. 136, Blk. 3, I.&G.N. Sur. ..... T.D. 3,106 ft; C.O.

Prairie O. & G. Co.'s No. 1 Reynolds, 330 ft. S and E, NW, Sec. 34, Blk. 3, I.&G.N. Sur. ..... Estimated 1,900,000 ft. gas 2,590-2,920 ft; S.O. 3,097 ft; T.D. 3,-407 ft; to plug back for gas well.

W. A. Scott's No. 1 Cobb, 330 ft. S, 425 ft. W, N½ SE, Sec. 184, Blk. 3, I.&G.N. Sur. ..... Estimated 4,000,000 ft. gas 2,875 ft; fishing 3,106 ft.

Skelly Oil Co.'s No. 1 Heitholt, 150 ft. N, 3,806 ft. W, Sec. 153, Blk. 3, I.&G.N. Sur. ..... S.D. 3,000 ft; making 40,000,000 ft. gas 2,995-3,000 ft.

Smith's No. 1 Morse, 200 ft. S, 330 ft. W, Sec. 6, Blk. 26, H.&G.N. Sur. ..... 3,000,000 ft. gas 2,150-70 ft; S.D. 2,892 ft; 400 ft. oil in hole.

Southern States Gas Co.'s No. 1 Case, 330 ft. N and W, E½, Sec. 181, Blk. B-2, H.&G.N. Sur. ..... Spudded.

Sullivan & Ochiltree's No. 1-A Morse, 330 ft. S and W, N½ NE, Sec. 15, Blk. A-9, H.&G.N. Sur. ..... Rig.

Warner Oil Co.'s No. 1 Morse, 330 ft. S and W, N½ NW, Sec. 68, Blk. 25, H.&G.N. Sur. ..... Cellar.

HUTCHINSON COUNTY

Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E, of N 80 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur. .. S.D.

Dixon Creek Oil Co.'s No. 1-F Johnson Bros., 330 ft. N and E of W 67 ac., SW, Sec. 15, Blk. XO3, H.&O.B. Sur. ..... Drlg. 810 ft.

Huber Prod. Co.'s No. 1 Johnson Bros. (Premier), 330 ft. N and E of W 60 ac., N 80 ac., NW, Sec. 3, Blk. Y, A.&B. Sur. ..... Rotary rig.

Liner Drlg. Co.'s No. 1-D Johnson Bros., 330 ft. N and E, W½ SW, Sec. 6, Blk. 1, B.&B. Sur. ..... Drlg. 2,480 ft.

Liner et al's No. 1 Johnson Bros., 990 ft. S, 330 ft. E, W½ SE, Sec. 29, Blk. Y, A.&B. Sur. ..... Spudded and S.D.

Stanolind O. & G. Co.'s No. 1 Barnhill, common cor. of tracts 28, 29, 30 and 31 of G. Martinez Sur., Blk. 2.. Drlg. 1,930 ft.

Sinclair O. & G. Co.'s No. 1-A Johnson Bros., 330 ft. N, 420 ft. E, NW, Sec. 32, Blk. Y, A.&B. Sur. ..... Drlg. 2,710 ft.

Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W, SE, Sec. 30, Blk. Y, A.&B. Sur. ..... S.O. 3,065 ft. and 3,108-10 ft; S.D. for pipe line connection 3,110 ft.

Texilvania Oil Co.'s No. 1 Harvey, 330 ft. N and W, SW NW, Sec. 14, Blk. M-21 ..... Rotary rig.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... T.D. 5,003 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft; S.D. 4,-167 ft.

MOORE COUNTY

Cloud & Dana's No. 1 Jones, 330 ft. N and E, SW, Sec. 169, Blk. 3-T, T.&N.O. Sur. ..... Drlg. 1,650 ft.

Dana O. & G. Co.'s No. 1 R. Utey, 330 ft. N, 330 ft. E, W½ SE, Sec. 135, T.&N.O. Sur. ..... Rig on ground.

Deimar Oil Co.'s No. 1-A Jones, 330 ft. N, 990 ft. E, NW, Sec. 171, Blk. 3-T, T.&N.O. Sur. ..... Estimated 100,000,000 ft. gas 3,-090 ft; T.P. 3,360 ft; T.D. 3,460 ft; I.P. 100 bbls. oil and 100 bbls. wtr.

Gulf Prod. Co.'s No. 1 Dare, C SE, Sec. 313, Blk. 44, H.&T.C. Sur. ..... Drlg. 2,826 ft.

Gulf Prod. Co.'s No. 2 Kilgore, C SE, Sec. 29, Blk. P.Mc., E.L.R.R. Sur. ..... Cellar.

Home Gas Co.'s No. 1 Reeder, 330 ft. N and W, N½ E½ NE, Sec. 191, Blk. 3-T, T.&N.O. Sur. ..... 25,000,000 ft. gas 3,139-3,200 ft; S.D. 3,505 ft.

Morton et al's No. 1 Rupert, 660 ft. N, 330 ft. E, NW, Sec. 191, Blk. 3-T, T.&N.O. Sur. ..... Cellar.

Plains Holding Co.'s No. 1 Bridges, 1,690 ft. S and E, NW, Sec. 252, Blk. 3-T, T.&N.O. Sur. ..... Location.

Shamrock O. & G. Co.'s No. 1 Sullivan, 330 ft. S and E, NE, Sec. 139, Blk. 3-T, T.&N.O. Sur. ..... Drlg. 3,425 ft.

Sunray Oil Co.'s No. 1 C. R. Jones, 330 ft. E, 330 ft. S, W½ SW, Sec. 164, T.&N.O. Sur. ..... T.P. 3,359 ft; T.D. 3,371 ft; flowed 1,000 bbls. in 9 hrs. and 20,000,-000 ft. gas; shut in.

Sunray Oil Co.'s No. 2 Jones, 330 ft. S, 990 ft. E, W½ SW, Sec. 164, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 580 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ..... Spudded and S.D.

Chambers et al's No. 1 Herring, CNL, Sec. 29, Blk. S, G.C.&S.F. Sur. ..... S.D. 680 ft.

WHEELER COUNTY

Canadian River Gas Co.'s No. 1-B Crawford ..... Rigging up.

Devore & Robinson's No. 1 Sitter, 2,310 ft. S and E, Sec. 33, Blk. 24, H.&G.N. Sur. ..... T.D. 1,650 ft. U.R. 10-in. csg.

Woodley et al's No. 1 Sloss & Admire, 660 ft. N, 330 ft. E, Sec. 47, Blk. 13, H.&G.N. Sur. ..... Estimated 25 bbls. oil from lime 2,205-23 ft; T.D. 2,250 ft; P.B. 2,230 ft; to reset pipe and test.

Vollmert's No. 1 Porter, 330 ft. S and E, NE, Sec. 15, Blk. 27, H.&G.N. Sur. ..... S.D

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 99)

H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G. M. M.Br.&A. Sur. ..... Shut down 3,280 ft.

Skelly Oil Co. and Republic Prod. Co.'s No. 1 McKenzie, 990 ft. from S line and 330 ft. from E line of Sec. 28, Blk. 45, Twp. 2s, T.&P. Sur. ..... Shut down 3,750 ft.; flowed 110 bbls. on July 12; shut in for storage.

Southern Crude Oil Pur. Co.'s No. 2 Cowder & Co., 660 ft. from S and W of NE cor., Sec. 34, Blk. 43, Twp. 1n, T.P. Sur. ..... Standing 10-in. casing; total depth 1,808 ft.

EL PASO COUNTY

Lane-The Texas Company's No. 1 Malone, 2,110 ft. from SW and NW of Sec. 46, J. M. Day Sur. ..... Shut down 3,089 ft.

Tri-State Oil Co.'s No. 1 Bobadella, 330 ft. from S and E of Sur. No. 254, S.F. No. 7,247 ..... Moving in material.

FISHER COUNTY

Condor Pet. Co.'s No. 1 Wilson, 330 ft. from N and 1,200 ft. from W, Sec. 6, W. E. Richardson Sur. ..... Total depth 2,945 ft.; running 6⅝-in. casing.

Cranfill & Reynolds' No. 2 Flanningan, 330 ft. from S and E of W half Sec. 200, B.B.B.&C. Sur. ..... Plugged back to 3,109 ft.; shut down for orders.

Cranfill & Reynolds' No. 3 Willingham, 330 ft. from S and E of Sec. 307, B.B.B.&C. Sur. ..... Shut down 3,090 ft.

Roeser & Pendleton's No. 1 Littleton, 1,600 ft. from S and 660 ft. from W of SE Sec. 191, B.B.B.&C. Sur. ... Drlg. 1,840 ft.

Roeser & Pendleton's No. 1 Gribble (Russell), 660 ft. from S and 440 ft. from W of NW Sec. 210, B.B.B. &C. Sur. ..... Rigging up.

The Texas Company's No. 2-A Stephens, 330 ft. from S and E, Sec. 79, Blk. 1, H.&T.C. Sur. ..... Drlg. 3,200 ft.

The Texas Company's No. 1-B Teagraden, 1,900 ft. from S and 440 ft. from E, Sec. 8, W. F. Richardson Sur... Drlg. 3,120 ft.

GAINES COUNTY

Texas Consolidated Oil Co. et al's No. 1 Jones, 2,310 ft. from NE, Sec. 4, Blk. A-8, P.S.L. Sur. ..... Shut down 730 ft.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 4, H.&G.N. Sur. ..... Spudded and shut down.

Perry & Porsey's No. 1 Justice, 1,980 ft. from S and 1,650 ft. from E of Sec. 25, Blk. 6, H.&G.N. Sur. (3,500-ft. cable tool test) ..... Moving in material.

GLASSCOCK COUNTY

F. H. E. Oil Co.'s No. 1 Meek, 1,650 ft. N and E parallel to section lines of SW cor., Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur. ..... Preparing to plug; tested salt water; total depth 3,170 ft.

Timberlake & Snyder's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor., Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur... Total depth 2,956 ft.; shut down.

World Oil Co.'s No. 3-C McDowell, 2,310 ft. from S and W of NE cor., Sec. 21, Blk. 34, Twp. 2s, T.&P. Sur.... Temp. abd.; total depth 660 ft.

HOWARD COUNTY

Cosden Oil Co.'s No. 6-A Roberts, 200 ft. N and E of Sw cor., Sec. 129, Blk. 29, W.&N.W. Sur. ..... Sulphur water 1,423-46 ft.; shut down 1,456 ft.

G. F. Getty's No. 1 Snyder, Sec. 27, Blk. 10, Twp. 1s, SW cor. NE NE ..... Shut down 3,500 ft.

Group No. 1 Oil Corp.'s No. 2 Eason, 1,320 ft. from S and W Sec. 6, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 950 ft.

Magnolia Pet. Co.'s No. 1 Kelly Roberts, 330 ft. S and E, Sec. 112, Blk. 29, W.&N.W. Sur. ..... Shut down 1,711 ft.; swa bed 35 bbls. 24 hrs.; will clean out and test.

Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 ..... Temp. abd. 261 ft.

HUDSPETH COUNTY

Theison's No. 1 University, 3,050 ft. from S and 2,225 ft. from E of Sec. 17, Blk. E ..... Spudded 35 ft. and shut down.

Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 ..... Shut down 3,155 ft.

IRION COUNTY

Central Oil Co.'s No. 2 Horney, 150 ft. from N and 1,320 ft. from E, Sec. 3, Blk. 3, H.&T.C. Sur. ..... Shut down 1,239 ft.

Cromwell et al's No. 3 Tankersley, 150 ft. from N and 210 ft. from W of E half Sec. 1,323, G.C.&S.F. Sur.... Shut down 1,712 ft.; show oil 1,621-25 ft.

Dixie Oil Co.'s No. 1 Williams, 1,320 ft. from S and E of Sec. 1,196, T.T.R.R. Sur. ..... Drlg. 240 ft.

Straughn & Texannati Oil Co.'s No. 1 Tankersley, 150 ft. from S and 750 ft. from W of Sec. 4, Gonzales County School Land ..... Shut down 1,473 ft.

Williams & Williams' No. 1 Noelke, 300 ft. from N and 1,020 ft. from E, Sec. 8, City of San Antonio Sur..... Shut down 3,401 ft.

F. F. Webb's No. 1 W. H. Williams, 200 ft. from E and 750 ft. from S line, SW NE, Sec. 10, Gonzales County School Land ..... Shut down 100 ft.

JONES COUNTY

Bond & Trout's No 1 Williams, 330 ft. S and E of SW cor. of J. W. Martin Sur. A-1,308 in Sec. 12 ..... Spudding (cable tools).

J. L. Hart et al's No. 1 Roberts ..... Total depth 1,000 ft.

Jameson et al's No. 1 King, 4,681 ft. from S and 150 ft. from E of M. Bueno Sur. No. 196 ..... Fishing 960 ft.

Shaheen & Duffy's No. 1 King, 2,650 ft. from N and from N and W, Lot 5, M. Bueno Sur. No. 197 ..... Total depth 1,917 ft.; running 6⅝-in. casing.

Union Oil Co. of Nevada & Shaheen's No. 1 King, 200 ft. from N and W, Lot 5, M. Bueo Sur. No. 197 ..... Machine.

S. C. Yingling et al's No. 1 Cade, 330 ft. from N and W from SE cor. NW, Sec. 17, Blk. 19, T.P. Sur. ..... Drlg. 2,456 ft.; 6⅝-in. casing set at 2,440 ft.

LOVING COUNTY

Cromwell et al's No. 1 Russell et al, 2,310 ft. from NE and 330 ft. from NW, Sec. 80, Blk. 1, W.&N.W. Sur.... Drlg. 2,350 ft.

Douglas et al's No. 1 Wheat & Ramsey, 330 ft. from SE and 2,310 ft. from SW, Sec. 83, Blk. 1, W.&N.W. Sur... Rig.

Eppenauer et al's No. 2 Allen, 2,310 ft. from NE and 330 ft. from NW Sec. 90, Blk. 1, W.&N.W. Sur. ..... Cellar.

Henshaw et al's No. 2 Reagan & McElvain, 1,650 ft. from SW and 990 ft. from SE, Sec. 84, Blk. 7, W.&N.W. Sur. ..... Rig.

Hoffman et al's No. 1 Ramsey et al, 330 ft. NE and SE Sec. 83, Blk. 1, W.&N.W. Sur. ..... Location.

Hoffman et al's No. 2 Ramsey et al, 2,310 ft. from NE and 330 ft. from SE, Sec. 83 ..... Location.

Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... Shut down 3,383 ft.

Lockhart & Co.'s No. 2 fee, 676 ft. S, 330 ft. W, Sec. 91, Blk. 1, W.&N.W. Sur. ..... Drlg. 3,320 ft.
Lockhart's No. 1 Hubbard, 6,930 ft. from NE and 330 ft. from SE, Sec. 32, Blk. 33, H.&T.C. Sur. ..... Rig up and shut down.
Lockhart & Co.'s No. 3 Hubbard, 1,650 ft. from NE line, 330 ft. NW line of Sec. 33, H.&T.C. Sur. ..... Rigged up and shut down.
Martin et al's No. 1 Wheat, 2,310 ft. from NE and 330 ft. from NW, Sec. 73, Blk. 1, W.&N.W. Sur. ..... Location.
Miller et al's No. 1 Chapman, 225 ft. from NW and 285 ft. from SW line, Sec. 71, W.&N.W. Sur. ..... Drlg. 4,356 ft.
Rush et al's No. 1 Wheat, 330 ft. from NW and SW, Sec. 77, Blk. 1, W.&N.W. Sur. ..... Cellar.
Slagel Drlg. Co.'s No. 1 Cartwright et al, 2,310 ft. from S and 990 ft. from W, Sec. 1, Blk. 57, Twp. 1, T.&P. Sur. ..... Drlg. 550 ft.
California Co.'s No. 2 Allen, 2,310 ft. from SE and SW lines, Sec. 90, Blk. 1, W.&N.W. Sur. ..... Location.
California Co.'s No. 6 Reagan & McElvain, 330 ft. from SW and 1,650 ft. from SE, Sec. 84, Blk. 1, W.&N.W. Sur. ..... Drlg. 4,224 ft.
California Co.'s No. 7 Reagan & McElvain, 2,032 ft. from SE and 1,014 ft. from NE of Sec. 84, Blk. 1, W.& N.W. Sur. ..... Drlg. 2,030 ft.

MENARD COUNTY

Barnett et al's No. 4 Callan City Co., 1,200 ft. from S and 2,200 ft. from W, Sec. 1, B.S.&F. Sur. ..... Machine.
Priest's No. 1 Sorrell, 1,000 ft. from E and 200 ft. from S cor., Sec. 132, E.L.R.R. Sur. ..... Drlg. 2,640 ft.

MITCHELL COUNTY

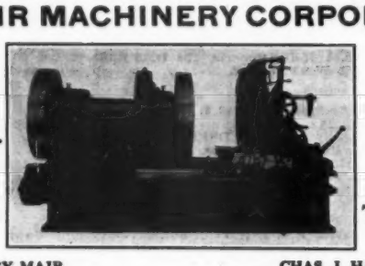
Lewis & Slagel's No. 1 Bell ..... Shut down 2,827 ft.; bails 20 bbls. oil in 24 hrs.
Morrison et al's No. 2 Morrison, 2,390 ft. from N and 660 ft. from E of Sec. 31, Blk. 28, Twp. 1n, T.&P. Sur. ..... Shut down 3,112 ft.; top pay 3,038-75 ft.; shot 270 qts. 3,020-92 ft.; swabbed 40 bbls. in 24 hrs.
Morrison et al's No. 1 Poe et al, 660 ft. S and 1,980 ft. W, parallel to section lines of NE cor., Sec. 8, Blk. 27, T.&P. Sur. ..... Spudded 10 ft. and shut down.

PECOS COUNTY

Bell et al's No. 1 Schraff & Blackman, 2,310 ft. NE and 330 ft. NW of E cor., Sec. 37, Blk. 3, H.&T.C. Sur. ... Shut down 1,634 ft.; top pay 1,600 ft.; shot 50 qts.; hole filled up 350 ft. oil in 12 hrs.
Bell et al's No. 1 Eaton (Sun Oil Co.), 2,310 ft. from NE and SE, Sec. 35, Blk. 3, H.&T.C. Sur. ..... Drlg. 310 ft.
Culberson Bros.' No. 1 Tippett (Humble), 150 ft. S and 843 ft. E of C Sec. 40, Blk. 194, G.C.&S.F. Sur. ..... Location.
Culberson Bros.' No. 2 Tippett (Humble), 150 ft. S and E of C Sec. 40, Blk. 194, G.C.&S.F. Sur. ..... Top pay 420 ft.; 150 ft. oil in hole; shut down 495 ft.
Dittman's No. 1 Jackson, 2,310 ft. from NE and 330 ft. from NW, Sec. 28, Blk. 3, H.&T.C. Sur. ..... Rig up.
Dittman's No. 2 Eaton, 990 ft. from SW and 330 ft. from SE, Sec. 35, Blk. 2, H.&T.C. Sur. ..... Location.
Dittman's No. 1 Eaton, 330 ft. from NE and SE, Sec. 37, Blk. 3, H.&T.C. Sur. ..... Shut down 1,282 ft.
Humble Oil & Ref. Co.'s No. 1 Kokernot, 1,320 ft. from N line and 1,467 ft. from W line of Sec. 227, Blk. 10, G.H.&S.A. Sur. ..... Shut down 6,179 ft.
Lancaster's No. 1 Eaton (Pure), 330 ft. from SE and SW, Sec. 35, Blk. 3, H.&T.C. Sur. ..... Location.
Magnolia Pet. Co.'s No. 1 Eaton, 2,310 ft. from SW and 330 ft. from NW, Sec. 35, Blk. 3, H.&T.C. Sur. ..... Location.
Mann's No. 1 Schraff & Blackman, 3,000 ft. from SW and 990 ft. from SE, Sec. 32, Blk. 3, H.T.C. Sur. ..... Drlg. 1,460 ft.
McCurdy & Brown's No. 2 Tippett, 150 ft. from N and W of SE, Sec. 40, Blk. 104, G.C.&S.F. Sur. ..... Location.
McCarty Oil Co.'s No. 3 Gray, 700 ft. from N and 2,260 ft. from W, Sec. 591, G.C.&S.F. Sur. ..... Bailed 4 bbls. oil per day; total depth 1,437 ft.
Messenger et al's No. 1 Butz, 1,830 ft. from NW and 1,170 ft. from SW, Sec. 54, Blk. 10, H.&G.N. Sur. ..... Shut down 1,299 ft.
Mid-Kansas O. & G. Co. et al's No. 1-A Sellman, 250 ft. from S and 330 ft. from W, Sec. 12, Blk. 194, G.C. &S.F. Sur. ..... Total depth 1,080 ft.

D. S. MAIR MACHINERY CORPORATION

Jos. T. Ryerson and Son, Inc.



Landis Machine Company

Whiting Corporation

Niles Tool Works

STANLEY MAIR
505 Esperson Bldg., Houston, Texas
Phone Fairfax 1466

CHAS. J. HARTER
10th Floor Santa Fe Bldg., Section 2,
Dallas, Texas. Telephone 7-2874

WILSON ELECTRIC ARC WELDERS IN HOUSTON AND DALLAS STOCKS
LANDIS BOLT AND PIPE THREADING CHASERS IN HOUSTON STOCK

TEXAS STEEL COMPANY

Fort Worth, Texas

Manufacturers of

SUCKER RODS PULL RODS

PUMPING JACKS

—and accessory pumping equipment

J. R. Miller et al's No. 1 Bennett, 359 ft. W of CWL. Sec. 1, Blk. 119, G.C.&S.F. Sur. ..... Total depth 1,735 ft.; running 6⅝-in. casing.
J. D. O'Mara's No. 1 Bennett, Sec. 593, 1,460 ft. from S 150 ft. from E, G.C.&S.F. Sur. ..... Total depth 1,236 ft.; top pay 1,089 ft.; plugged back to 1,185 ft.; will drill deeper.
J. D. O'Mara's No. 1 Streety, S of Sec. 1, W. P. Howard Sur. ..... Shut down 2,210 ft.; fishing.
Penn Oil Co. et al's No. 1 Alvis, 2,358 ft. from S and 1,327 ft. from W, Sec. 155, Blk. 3, T.&P. Sur. ..... Drlg. 735 ft.
Perren Oil Co.'s No. 2 Eaton, C of E, Sec. 27, Blk. 3, H.&T.C. Sur. ..... Shut down 1,765 ft.
R. W. Porpus et al's No. 1 State Land, 330 ft. S and W lines of NE, Sec. 28, Blk. OW, T.C. Sur. ..... Spudded and shut down.
Pure Oil Co.'s No. 1 Harrison, 2,310 ft. from N and 330 ft. from W of Sec. 303, Blk. 3, T.&P. Sur. ..... Shut down 5,000 ft.
Riser & White's No. 1 Riser, 2,297 ft. from S and 997 ft. from E of Sec. 24, Blk. 12, H.&G.N. Sur. ..... Shut down 500 ft.
Side & Side's No. 1 Blackstone & Slaughter, C NW, Sec. 34, Blk. A-2, T.C. Sur. ..... Shut down 3,405 ft.; plugged back to 3,103 ft. and shut down.
Schilling & Slaughter's No. 1 Yates, 1,580 ft. N and 150 ft. E of NW cor. Runnels County School Land, but located in Sec. 70, Blk. 1, I.&G.N. Sur. ..... Shut down 337 ft.
Southern Crude Oil Pur. Co.'s No. 1 Schraff & Blackman, 4,550 ft. 40° E and 330 ft. 50° W of most southerly cor. Sec. 38, Blk. 3, H.&T.C. Sur. ..... Drlg. 1,860 ft.
California Co. et al's No. 1 Thomas, 990 ft. from NW and SW, Sec. 31, Blk. 34, H.&T.C. Sur. ..... Location.
The Texas Company's No. 1 Wright, 660 ft. S and E of NW cor., Sec. 9, Blk. 131, T.&St.L. Sur. ..... Snut down 3,504 ft.
Warner's No. 1 Webb, 2,550 ft. from NW and 6,100 ft. from NE of Sec. 311, Abst. 756, C. McGinley Sur. ..... Shut down 3,200 ft.
Williams & Moran's No. 1 Heiner Est., 450 ft. from N and 2,490 ft. from W of Sec. 590, G.C.&S.F. Sur. ..... Drlg. 1,518 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 5-C University, 625 ft. from S and 900 ft. from W of Sec. 35, Blk. 9 ..... Top pay 8,405 ft.; flowed 718 bbls. first 24 hrs.; shut down 8,718 ft.
Big Lake Oil Co.'s No. 6-C University, 1,120 ft. S and 1,100 ft. from W, Sec. 25, Blk. 9 ..... Location.
Texon O. & L. Co.'s No. 4-B University, 1,130 ft. from N and W of Sec. 26, Blk. 9 ..... Drlg. 8,159 ft.

REEVES COUNTY

R. T. Hansford's No. 1 Williams, 150 ft. from S and W, Sec. 17, Blk. 6, H.&G.N. Sur. ..... Shut down 380 ft.
Riggs & Smith's No. 1 Lee Monroe, 2,190 ft. from NE and 330 ft. from NW line, Sec. 34, Blk. 8, H.&L.N. Sur. ..... Shut down 176 ft.
Salsbury & Gregory's No. 1 Young Bell, 1,170 ft. from N and 330 ft. from NW line, Sec. 34, Blk. 7, H.&L.N. ..... Temporarily abandoned.
Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur. ... Shut down 4,415 ft.
California Co.'s No. 2 Kloh & Rumsey, 590 ft. from S and 1,520 ft. from E, Sec. 11, Blk. 54, Twp. 4, T.&P. Sur. ..... Drlg. 366 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 419 ..... Shut down 2,180 ft.

SCHLEICHER COUNTY

Delmar Oil Co.'s No. 1 O'Harrow, C NW, Sec. 56, Blk. 1, G.H.&S.A. Sur. ..... Shut down 5,745 ft.
Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. ..... Spudded 50 ft.
Teas & Gant's No. 1 Allison, 1,320 ft. N and E of SW cor. Sec. 37, Blk. K, G.H.&S.A. Sur. ..... Drlg. 4,030 ft.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,362 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... Shut down 750 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A. Sur. ..... Shut down 5,027 ft.

SCURRY COUNTY

Byrd & Harmon's No. 1 Murphy, Jr., 320 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. Sur. ..... Pumping 20 bbls. per day for fuel oil; total depth 3,501 ft.
Camp Spring Oil Co.'s No. 1 Strayhorn, 330 ft. from S and 1,980 ft. from W of Sec. 154, Blk. 3, H.&G.N. Sur. .. Shut down 875 ft.
I. D. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 3, H.&T.C. Sur. ..... Spudded and shut down.
G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Shut down 4,970 ft.
Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W, Sec. 68, Blk. 3, H.&G.N. Sur. ..... Cellar.
Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 155, Blk. 97, H.&T.C. Sur. ..... Drlg. 2,202 ft.

STERLING COUNTY

Beesley et al's No. 1 Foster, 2,940 ft. N and 300 ft. W of SW cor. Sec. 7, Blk. 22, E.&T.C. Sur., but in Sec. 16, Blk. 21, Twp. 4s, T.&P. Sur. ..... Shut down 640 ft.

TAYLOR COUNTY

Eastland Oil Co. et al's No. 2 Hunter, 3,418 ft. from S and 2,174 ft. from E of William R. Ellis Sur. ..... Total depth 2,750 ft.; plugged back to 2,396 ft.; trying to shut off water.
John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor., Sec. 46, Lunatic Asylum Land ..... Shut down 6,251 ft.; preparing to recement 3-in. casing.
Sanger et al's No. 1 City of Abilene, 330 ft. from S and 1,400 ft. from E of Sec. 66, Blind Asylum Land ..... Drlg. 2,005 ft.
Sanger O. & R. Co.'s No. 1 Osborn, 330 ft. from SW of SE, Sec. 68, Blind Asylum Land ..... Rigged up and shut down.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW, Sec. 155, Blk. D, M.-K.-T. Sur. ..... Shut down 2,669 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C, Sec. 6, Georgetown Ry. Sur. ..... Shut down 3,150 ft.
Milham Corp. of Texas' No. 1 R. M. Bassett et al, 150 ft. from N line and 2,640 ft. from E and W lines of Sec. 76, Blk. Y, James Bass Sur. ..... Location.
Miller Bros.' No. 1 Allison & Burke, C NW cor., Sec. 10, Blk. 176, T.&P. Sur. ..... Shut down 120 ft.
Mrs. J. B. McPhees' No. 1 Sam Belt, C, Sec. 16, Blk. D-7, E.L. Sur. ..... Shut down 880 ft.; moved off machine.
Transcontinental Oil Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F. Sur. ... Fishing 5,455 ft.
Woodley & Jones' No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... Shut down 640 ft.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Norsworthy, 2,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... Shut down 760 ft.; show oil and gas 725 ft.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW, Sec. 1,628, E. H. Dinger Sur. ..... Plugged back to 2,405 ft. to straighten hole, shut down 2,447 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur. ... Cleaning out 1,945 ft.
Pratt & Hancock's No. 2 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... Shut down 200 ft.

UPTON COUNTY

Corzelius et al's No. 1 Shirk (Tidal Oil Co.), 2,317 ft. from W and 418 ft. from S, Sec. 15, Blk. 3, M.-K.-T. .. Drlg. 1,175 ft.
Duffey et al's No. 3 McClintic, 330 ft. from N and 1,650 ft. from E, Sec. 206, Blk. F, C.C.S.D.&R.G.N.G. ..... Drlg. 2,100 ft.
Humble O. & R. Co.'s No. 1 Damron et al, 330 ft. from N and W, Sec. 192, Blk. F, C.C.S.D.&R.G.N.G. Sur. .... Drlg. 3,130 ft.

MISSION SLIPS

TOOK THE LIMIT OF TESTING MACHINE 200,000 POUNDS

In a recent test at Rice Institute, Mission Slips were subjected to the capacity of the Tinius Olsen Tension-Compression Testing Machine. How much greater load the Mission Slips would take, we do not know, since 200,000 pounds is the limit for this particular testing machine.

◆ ◆ ◆ ◆ ◆

This 200,000 pounds pressure is equivalent to . . . . 13,333 feet of 13.3 lb. 3 inch drill stem with 44 lb. A.P.I. tool joints on every joint . . . figured on the weight of the pipe hanging in the air.

PIPE REMOVED FROM SLIPS BY HAND

At the conclusion of the test the pipe was removed from the slips by hand. No other slip tested by this machine has ever permitted such ease in removal of pipe. Such results reflect the perfection of engineering design and balance of the Mission Slips and explain why much pipe is saved due to that quality in design which allows these slips to handle long strings of pipe without damaging same.

Mission Slips have proven over and over in the field that they do not damage drill stem by cutting or bottle necking.

INVESTIGATE NOW the money making advantages of using Mission Slips that pay for themselves over and over on the pipe they save.

PARTS

(1) Back Plate
(2) Dogs (Teeth)
(3) Body Bolt
(4) Body Nut
(5) Body Spring
(6) Handle
(7) Handle Pin
(8) Cap
(9) Cap Bolt
(10) Cap Spring
(11) Cap Spring Pin

Write for Complete NEW CATALOG Containing Prices and Types of MISSION SLIPS

Distributed by

Republic Supply Company

OIL AND GAS WELL SUPPLIES

Cable and Rotary Tools

GENERAL OFFICES: HOUSTON, TEXAS

Humble O. & R. Co.'s No. 15 Ricker, 3,360 ft. from NE and 3,280 ft. from NW Sec. 5, Mary S. Denton Sur.... Drlg. 1,580 ft.
R. R. Penn & Shell Pet. Corp.'s No. 1 Halamicek, C SE Sec. 93, Blk. D, C.C.S.D.&R.G.N.G. Sur. ..... Top salt 1,568 ft.; drlg. 1,950 ft.
T. P. Coal & Oil Co.'s No. 1 King Ranch Oil & Lignite Co., 2,310 ft. from N and 990 ft. from W, Sec. 28, Blk. 2, M.-K.-T. Sur. ..... Shut down 2,360 ft.
Weekly Oil Corp.'s No. 1 Shirk, 465 ft. from S and 2,317 ft. from E, Sec. 15, Blk. 3, M.-K.-T. Sur. ..... Shut down 2,714 ft.; 700 ft. oil in hole.
Weekley Oil Corp. et al's No. 1 McClintic, 1,650 ft. from N and 330 ft. from E, Sec. 206, Blk. F, C.C.S.D. &R.G.N.G. Sur. ..... Hole filled 1,000 ft. 12 hrs.; shot 500 quarts 2,856-3,004 ft.; flowed 186 bbls. first 12 hrs.; total depth 3,004 ft.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE, Sec. 10, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 5,360 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Fishing 6,780 ft.
Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line, Sec. 93, Blk. D-5, E.L. Sur. ..... Shut down 3,035 ft.
Valvert Oil Corp.'s No. 1 Bassett, C NE Sec. 47, Blk. Y.. Shut down 4,009 ft.

WARD COUNTY

Empire Gas & Fuel Co.'s No. 1 John Sealy estate, 330 ft. from S and 1,650 ft. W of NE cor., Sec. 5, Blk. F, T.&M.M. Bros. Sur. ..... Fishing for bit; total depth 2,530 ft.
Grand Falls Oil Co.'s No. 1 Blair & Boogher, 500 ft. from SW and 1,160 ft. from NW, Sec. 11, Blk. 5, H.&T.C. Sur. ..... Preparing to test 2,230 ft.; est. 20-bbl. well.
Gulf Prod. Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW, Sec. 18, Blk. 5, H.&T.C. Sur.... Show gas 1,960-70 ft.; filling up with sulphur water 2,520-77 ft.; salt water 2,515 ft.; plugged back to 2,477 ft.
Gulf Prod. Co.'s No. 16 O'Brien, 2,310 ft. from S and 990 ft. E, Sec. 16, Blk. F, L.M.&W.B.&A. Sur. ..... Location.
Kugle et al's No. 1 Wallace, 330 ft. from SE and 1,363 ft. from SW, Sec. 19, Blk. 34, H.&T.C. Sur. ..... Underreaming 8¼-in. casing; total depth 1,615 ft.
Magnolia Pet. Co.'s No. 1 Sealy (Atlantic), 2,130 ft. from S and 1,650 ft. from E Sec. 45, Blk. F, G.M.M.B.&A. Sur. ..... Driving 20-in. casing; total depth 325 ft.
R. F. Owens' No. 1 Johnson, 100 ft. from NE and 1,100 ft. from SE of Sec. 8, Blk. 33, H.&T.C. Sur. ..... Shut down 1,200 ft.
Prairie O. & G. Co.'s No. 1 Hill, 330 ft. from NE and NW, Sec. 30, Blk. B-29, P.S.L. Sur. ..... Drlg. 100 ft.
Rector Oil Co. et al's No. 1 Boogher, 1,733 ft. from NW and 1,800 ft. from SW, Sec. 11, Blk. 5, H.&T.C. Sur.... Cleaning out with 1,000 ft. oil in hole; total depth 2,230 ft.
Rickford & Smith's No. 1 Johnson, 120 ft. NE and 175 ft. SE of N cor., Sec. 7, Blk. 32, E.&T.C. Sur., but located in Sec. 11, Blk. 5, H.&T.C. Sur. ..... Shut down 1,000 ft.
Paul Ryan's No. 1 Allen, 988 ft. from NW and 3,624 ft. from NE, Sec. 11, Blk. 5, H.&T.C. Sur. ..... Rig up.
Shipley et al's No. 5 Hayzlett, 2,490 ft. from SE and 1,980 ft. from SW, Sec. 17, Blk. 5, H.&T.C. Sur. ..... Location.
California Co. et al's No. 1 Lanham, 990 ft. from NE and SE, Sec. 35, Blk. 34, H.&T.C. Sur. ..... Building rig.
California Co.'s No. 1 Gordon, 330 ft. from NE and SE, Sec. 6, Blk. 34, H.&T.C. Sur. ..... Location.
T. P. Coal & Oil Co.'s No. 1 James, 330 ft. from SW and SE, Sec. 5, Blk. 34, H.&T.C. Sur. ..... Preparing to swab; top pay 2,305 ft.; total depth 2,340 ft.
Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17 is N and S, 220 ft. S and 1,910 ft. W, Sec. 17, Blk. 5 ..... Standard rig.
Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 ..... Fishing 3,780 ft.
California Co.'s No. 1 Allen, 2,310 ft. from NE and 330 ft. from SE, Sec. 30, Blk. 34, H.&T.C. Sur. ..... Coring lime 2,575 ft.

WINKLER COUNTY

Magnolia Pet. Co.'s No. 1 Bashara, 1,650 ft. from S and 2,310 ft. from W, Sec. 17, B-3, P.S.L. Sur. ..... Drlg. 2,095 ft.
Magnolia Pet. Co.'s No. 1 Walton, 2,310 ft. from N and W Sec. 16, Blk. 77, P.S.L. Sur. ..... Drlg. 350 ft.
A. W. Phillips' No. 2 Brown et al, 2,000 ft. S and W of NE, Sec. 4, Blk. B-5, Public School Land ..... Shut down 3,506 ft.
Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5 ..... Shut down 4,639 ft.

EAST CENTRAL TEXAS WILDCATS

(Continued from Page 101)

H. W. Blum's No. 1 W. M. Jarnigan, 150 ft. from S. 150 ft. W of 17-ac. tract, J. C. Snow Sur. ..... Derrick (rotary).
Burgoyne et al's No. 1 J. A. Alexander, 633 ft. from E and 400 ft. from S, Thomas Jones Sur. ..... Shut down 2,250 ft.
Consolidated Oil Co.'s No. 1 Camp, 150 ft. from S and 150 ft. W of 74.57-ac. tract, Juan Ximenes Sur. .... Rig up.
Capp & Smith's No. 1 J. L. Cochrane, 150 ft. from E and 150 ft. from SE cor. of Cochrane tract, Jacob Rota Sur. ..... Rig up.
E. L. Chapman's No. 1 A. P. Finney, 150 ft. from W of E 20 acres of 102-ac. tract, Isaac G. Parkey Sur. .. Derrick.
Deep Rock Oil Co.'s No. 1 Mayfield-Alford, 150 ft. from W and 200 ft. of SE cor. of lease, Juan Ximenes Sur. ..... Top Pecan Gap 2,600 ft.; drlg. 2,715 ft.
Dan Dillon et al's No. 1 W. H. Frederick (Jake), 150 ft. from E and 150 ft. from S of 50-ac. tract, Juan Ximenes Sur. ..... Derrick.
East Texas Oil Co.'s No. 1 C. D. Ashby, 856 ft. N and 1,774 ft. from W of Ashby 119-ac. tract, Juan Ximenes Sur. ..... Rig up.
Frank Foster's No. 1 Alford-Mayfield, 150 ft. N and 410 ft. from W of NE cor. of Ashby 45-ac. tract, J. Ximenes Sur. ..... Rig up.
Foster Oil Co.'s No. 2 Cook, 150 ft. from S and 150 ft. from W, Juan Ximenes Sur. ..... Rig up.
Goodman's No. 1 Oscar Jones, 250 ft. from W and 150 ft. from N of railroad, Brown Sur. ..... Drlg. 3,150 ft.
Haynes Drilling Co.'s No. 1 J. T. Brown, 150 ft. from N and 150 ft. from E of J. T. Brown 76-ac. tract, M. J. Prue Sur. ..... Drlg. 2,583 ft.
Hunt's No. 2 Bradford, 1,320 ft. from E and 150 ft. from S of Blk. No. 12, Juan Ximenes Sur. ..... Drlg. 1,685 ft.
H. L. Hunt's No. 1 Claude Ashby, 330 ft. from W and 485 ft. S of NE cor. of Ashby 109.7-ac. tract, J. Ximenes Sur. ..... Drlg. 2,898 ft.
Hunt's No. 2 Ashby, 150 ft. from N and 2,213 ft. from W of 119-ac. tract, Juan Ximenes Sur. ..... Drlg. 1,413 ft.
E. M. Jones et al's No. 1 W. R. Crim, 150 ft. N and 150 ft. W of 50-ac. tract, Robert E. Winn Sur. ..... Location (rotary).
Knox et al's No. 1 M. A. Melton, 363 varas N, 140 varas W, Elis Milton Sur. ..... Derrick.
L. Lloyd Oil Corp. et al's No. 1 Nicey, 150 ft. S and 300 ft. W of 25-ac. tract (NW cor. of county), Thomas Obar Sur. ..... Derrick.
E. C. Laster's No. 1 Daisy Bradford, 150 ft. from E and 150 ft. from S of Lot 14, Juan Ximenes Sur. .. Spudding.
Lide et al's No. 1 Calvin Young, 3,015 ft. E and 3,373 ft. S, M. J. Prue Sur. ..... Drlg. 2,827 ft.
Mass et al's No. 1 Matthews, 3,244 ft. from N, 4,356 ft. from E, Delines Cartimas Sur. ..... Shut down 2,338 ft.
A. A. Malone's No. 1 G. T. Moore, 150 ft. from E and 150 ft. from S, Juan Ximenes Sur. ..... Derrick.
W. Olvey's No. 1 Mrs. W. R. Crim, 150 ft. N and 150 ft. W of lease, Robert E. Winn Sur. ..... Location (rotary).
Rusk County Oil Co.'s No. 1 Robertson, 150 ft. N along W line of George Guthrie Sur. from SE cor. and 150 ft. W of E line of Robertson 20-ac. tract, R. H. Pinney Sur. ..... Drlg. 500 ft.
George Page's No. 1 William Camp, 150 ft. from S and 650 ft. from W of 5-ac. tract, J. Ximenes Sur. ..... Derrick.
Roberts Oil Corp.'s No. 1 C. D. Ashby, 150 ft. N and 1,580 ft. W of Ashby 119-ac. tract, Juan Ximenes Sur. ..... Drlg. 1,314 ft.
Rusco Oil Co.'s No. 1 Daisy Bradford, 150 ft. from E and 330 ft. from W, Lot 13, Juan Ximenes Sur. ..... Drlg. 1,810 ft.
Nat Saddler's No. 1 Ed Sparks, 350 ft. from E and 150 ft. from S of survey, L. C. Rugg Sur. ..... Derrick.
B. J. Shaw's No. 1 C. D. Ashby, 367 ft. N and 1,768 ft. W of 119-ac. tract, Juan Ximenes Sur. ..... Set 198 ft. surface csg.; drlg. cement.
Tex-Lloyd Oil Co.'s No. 1 Camp, 150 ft. E and 150 ft. S of 5-ac. tract, Juan Ximenes Sur. ..... Flowed six heads first 5 hours; estimated 250 bbls.; T. D. 2,594 ft.
United Prod. Oil Co.'s No. 1 Mayfield-Alford, 150 ft. from S and 2,233 ft. from W of 105-ac. tract, Juan Ximenes Sur. ..... Rig up.

SMITH COUNTY

Thayer & Rogers' No. 1 Willingham, 150 ft. N and W of 14.5-ac. tract, Jacob Hernin Sur. ..... Shut down 2,000 ft.
Winona O. & G. Co.'s No. 1 Freeman, 150 ft. from S, W of 89-ac. tract in A. J. Legrone Sur., 4 miles SE of Winona ..... Shut down 3,681 ft.

VAN ZANDT COUNTY

L. R. Barton's No. 1 Wamble, 300 ft. from S and W of 100-ac. tract in Pleasant Young Sur. ..... Derrick.
Burton Drlg. Co.'s No. 1 Flores, 2,250 ft. from N and 150 ft. from W of SE cor. in Peter Holmes Sur. .... Location.
Cranfill & Germany's No. 1 Swain, 137 ft. N and 50 ft. from W of excess strip on W side of O. L. and L. L. Swain farm ..... Shut down 14 ft.
T. Daniels' No. 1 Fannie Cumbine, 185 ft. S and 175 ft. E of NW cor. 156-ac. tract, John Wright Sur. ..... Temporarily abnd.
Dennis Oil Co.'s No. 1 C. W. Morris, 100 ft. from N and 300 ft. from E lines of Morris 160-ac. tract in C. L. Morris Sur., 5 miles SE of Ben Wheeler ..... Temporarily abnd.
J. C. Fare's No. 1 P. S. Hand, C of Hand's 50-ac. tract, William Buchanan Sur. ..... Drlg. 4,609 ft.
Hartt Oil Co.'s No. 1 Dr. L. M. Cox and A. C. Night Sur., 1,785 ft. N of S line and 524 ft. E of W line .. Shut down 200 ft.
H. Helms et al's No. 1 Bogue, 647 ft. W and 155 ft. S of SE cor. of J. M. Brown 70-ac. in Marshall University Sur., SE of Van ..... Shut down 2,840 ft.
Howard & Dooley's No. 1 Elliott 188-ac. tract in W. H. Bundy Sur. ..... Derrick.
Humble Oil & Ref. Co.'s No. 8 Ruth Starr Blake, 400 ft. W and 100 ft. N of NW cor. of Ella York lease No. 102, John Walling Sur. ..... Location.
Humble Oil & Ref. Co.'s No. 1 L. A. Dowdle, 1,027 ft. N of S line and 150 ft. E of W line, William Daniel Sur.. Temp. abnd. 2,987 ft.
Humble Oil & Ref. Co.'s No. 2 L. V. Freeman, 250 ft. S of N line and 250 ft. E of W line of lease, John Walling Sur. ..... Drlg. 1,855 ft.
Imperator Oil Co.'s No. 2 G. W. Carter, 175 ft. from S and 35 ft. from W of G. W. Carter 171-ac. tract, William Daniel Sur. ..... Shut down.
Jenkins et al's No. 1 V. T. Davis, SE cor. of 139.8-ac. tract, Nacogdoches County School Land ..... Shut down 2,031 ft.
Kelly Oil & Gas Co.'s No. 1 Lemsford, center of Lemsford tract, John Conner Sur. ..... Shut down 2,300 ft.
Neil McMehory's No. 1 R. V. Murphy, 150 ft. from N and 150 ft. W of survey, H. Bailey Sur. ..... Shut down 263 ft.
Pure Oil Co.'s No. 3 R. A. Howell, 225 ft. N and E of SW cor., Mund Gross Sur. ..... Reaming to straighten hole 2,496 ft.
Pure Oil Co.'s No. 2 A. G. Tunnell, 250 ft. N of S line and 260 ft. W of E line, John Walling Sur. .... Coring plug 2,802 ft.
Pure Oil Co.'s No. 1 Wylie Enas, 835 ft. E of W line and 750 ft. N of S line, J. Prado Sur. ..... Testing; well flowing by heads; T. D. 2,936 ft.
Pure Oil Co.'s No. 6 A. D. Clark, 242 ft. W of E line and 212 ft. S of N line, John Walling Sur. ..... Drlg. 2,790 ft.
Pure Oil Co.'s No. 7 A. D. Clark, 200 ft. E of W line and 703 ft. S of N line of lease, John Walling Sur. ..... Preparing to wash well in 2,949 ft.
Pure Oil Co.'s No. 1 Davis, 127 ft. from S and 200 ft. from W of 139-ac. tract, Nacogdoches County School Land ..... Derrick standing.
Pure Oil Co.'s No. 4 W. F. Swain, 250 ft. S of N line and 200 ft. W of E line of lease, Mund Gross Sur. ..... Location.
Pure Oil Co.'s No. 3 O. L. Swain, 250 ft. S of N line and 250 ft. W of E line, John Walling Sur. ..... Location.
Pure Oil Co.'s No. 8 A. D. Clark, 150 ft. from E of W line and 200 ft. N of S line of lease, John Walling Sur. ..... Location.
Pure Oil Co.'s No. 2 R. L. Wells and A. T. Tunnell, 744 ft. E of W line and 250 ft. N of S line of lease in H. V. Moore Sur. ..... Location.
Pure Oil Co.'s No. 2 J. D. Miller, 250 ft. N of S line and 250 ft. E of W line of lease in John Walling Sur. ..... Location.
Pure Oil Co.'s No. 3 R. H. Peters, 250 ft. E of W line and 250 ft. N of S line of lease in Nacogdoches County School Land Sur. ..... Location.
Pure Oil Co.'s No. 2 L. A. Smith, 632 ft. N of S line and 250 ft. E of W line of lease, John Walling Sur. ..... Location.
Pure Oil Co.'s No. 3 F. B. Smith, 250 ft. S and 200 ft. W of SE cor. of Ella York 39.6-ac. tract, John Walling Sur. ..... Location.
Pure Oil Co.'s No. 1 R. L. Enas, 835 ft. E of W line and 150 ft. from S of N line of lease, Jackson Thomas Sur. ..... Location.
Pure Oil Co.'s No. 1 M. R. Blake, 225 ft. W of E line and 200 ft. S of N line of lease in Schmitz Sur. .... Location.
Pure Oil Co.'s No. 3 C. C. Stewart, 225 ft. N and 225 ft. W of most easternly SE cor. of lease, A. McPhail Sur. ..... Location.
Roy Stumpff's No. 1 Riggs, 169 ft. from E and 155 ft. from S of 3-ac. tract, William Daniel Sur. ..... Derrick (rotary).
The Texas Company's No. 5 R. A. Tunnell, 495 ft. S of N line and 200 ft. E of most westernly W line, John Walling Sur. ..... Location.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. .. Shut down 1,028 ft.
Vitek Oil Co.'s No. 1 Smith, 150 ft. S and 15 ft. from W of L. A. Smith 40-ac. farm in John Walling Sur.... Derrick.
Whitmore Oil & Gas Co.'s No. 1 R. W. Beggs, 300 ft. from S and 600 ft. from W, Raquet Sur. ..... Rig up.

WOOD COUNTY

Loche & Clark's No. 1 A. C. Pick, 165 ft. S of NE cor. G. C. Reeves 25-ac. tract, Daniel Fuller Sur. .. Shut down 997 ft.

Of Interest to Sales Departments

Many States Show October Declines In Gasoline Sale

While 18 states showed a total decrease in gasoline consumption during October, 1930, of 23,345,000 gallons, as compared with the amount of gasoline used in October of 1929, increases in the other 29 states amounted to 42,443,000, giving for October, 1930, an increase in consumption of 19,098,000 gallons, or 1.6 per cent more than in October of 1929, figures compiled by the American Petroleum Institute show.

The greatest decrease is shown in the figures for Ohio, where 4,862,000 gallons less gasoline were consumed in October, 1930, than in October of the preceding year. This decrease is from 87,624,000 gallons. North Dakota, which in October, 1929, used 12,830,000 gallons, showed a decrease of 2,501,000 gallons in the figures for October of 1930. Texas, with a decrease of 2,344,000, consumed only 66,319,000 gallons in October of this year. Other states which lowered their consumption appreciably in October, 1930, were: Alabama, 1,952,000 gallons; Michigan, 1,704,000 gallons; North Carolina, 1,679,000 gallons; Mississippi, 1,459,000 gallons; Oklahoma, 1,424,000 gallons; Georgia, 905,000 gallons; Louisiana, 783,000 gallons, and Arkansas, 637,000 gallons.

The greatest increase was registered in New York where the 1930 October figure is 9,532,000 higher than for October of 1929. Other large increases were shown in the following states: New Jersey, 4,361,000 gallons; Illinois, 4,274,000 gal-

(Continued on Page 150)

ARGENTINE GASOLINE TAX TO FINANCE ROAD SYSTEM

For the purpose of financing an extensive road-building program in Argentina, an agreement has been reached by the minister of agriculture and gasoline importers to increase the price of this fuel 2 centavos a liter, this increase in revenue to be turned over to the federal government.

This levy is expected to produce $7,643,000 in the first year of its operation, and the estimated 5 per cent annual increase in the sales of gasoline, which is calculated to reach an annual figure of $19,532,000 in 1955, will make possible an increase in the proposed $106,150,000 loan for which the gasoline revenue will provide a sinking fund. This increase will be to $254,760,000. Six per cent is to be paid on the loan with a 1 per cent annual service charge for the sinking fund.

The road-building program calls for a large network of hard-surfaced roads connecting with two main trunk toll roads from Buenos Aires to Cordoba, and from Buenos Aires to Bahia Blanca.

E. WHITEHEAD IN CHARGE OF NEW ROAD OIL OUTLET

The man who in 1903 carried on a successful campaign to show the superiority of fuel oil over coal in general industry, as salesman for the Associated Oil Co., which was incorporated two years before, has been given another pioneering role with his company's entrance into the road oil production field.

This man is E. Whitehead, sales manager of the fuel oil department of the company, who has been placed in charge of the new road oil business. Under his supervision a market is growing and an elaborate outlay of production and experimental apparatus is in operation at the Avon, Calif., refinery.

SAFE HANDLING OF AVIATION FUELS REQUIRES GREAT CARE AT ALL TIMES

By E. E. Aldrin
Aviation Manager, Standard Oil Co. of New Jersey*

The present typical aviation fuel is very inflammable and explosive. Heavier petroleum distillates like kerosene, contrary to the conception of the average aeronautical engineer, are also dangerous, particularly because their vapors settle near the ground and explosion may occur over a wider band of air mixtures. There is no denying, however, that gasoline being more volatile will distribute its vapors more promptly and in a short time be an extreme potential hazard.

Tests for spontaneous ignition temperatures of various kinds of fuels show kerosenes self-ignite at lower temperatures than do gasolines. On the other hand, the reverse is true in flash test, which is the basis of the general and proper impression of relative danger of gasoline. Diesel fuel would probably ignite faster than gasoline on a hot exhaust pipe, but in the presence of flame, spark or incandescent heat, gasoline is by far the more dangerous.

There has been a general desire to obtain satisfactory Diesel fuel burning engines for aircraft, largely to decrease fire risks. The above facts should be considered, however, because the perfect ideal will not have been reached by using a light furnace oil or kerosene.

If proper distribution can be effected to each cylinder in an aircraft engine by individual pumps, heavier or higher flash fuels could be used without much other modification of the engines. Proper advantage in fuel consumption, in terms of pounds per horsepower hour, could probably not be effected with the normally available kerosene on account of the detonation which would normally obtain with the higher compressions necessary. It might be stated, however, that experiments are progressing satisfactorily from this standpoint, and something quite worth while should be available for aviation in the not distant future. I might say I have not reference in this case to the compression ignition type, but to the orthodox spark plug ignition type, four-cycle engine.

Therefore, for the immediate problem it is vital that the most careful practices be stipulated in handling aviation gasoline by airport operators. In collaboration with oil companies and others through the fuels and lubricants sectioon, of which I have the honor to be chairman, the Aeronautical Chamber of Commerce of America has sponsored the following advice and suggested regulations.

Basic Precautions

Never allow a fire hazard near gasoline storage or filling operations. This means no smoking.

Avoid spilling gasoline. If spillage occurs, see that it is dried up or removed immediately. If gasoline is spilled on an airplane, be sure it is entirely removed before the motors are started.

Before transfering gasoline from one container to another always establish electrical bonding. This is absolutely necessary in order to equalize the electrical charge and prevent static sparks.

All hose used should be triplex metal lined or equivalent, having an adequate bonding cable attached to the nozzle. In fueling a plane attach the test clip on this cable to some uninsulated metal part of the plane in continuous metal contact with the gasoline tank of the plane but

(Continued on Page 188)

*Paper presented at First International Aerial Safety Congress in Paris.

USING CASTOR OILS IN BLENDING MOTOR OILS

NEW YORK, Jan. 10.—Castor oil neutralized with triethylamine, is coming into wide use in France as a substitute for mineral lubricating oils, according to the American Chemical Society's Paris correspondent. The French government has been encouraging the cultivation of castor oil plants in Algeria and Morocco during recent years as another step in building up an adequate supply of lubricating oil, and it is planned to further increase the use of castor oil in France with the idea of ultimately replacing petroleum lub oils entirely.

The great bar hitherto to the use of castor oil has been its acidity, but this has been overcome through the development of a method of neutralizing this acidity with triethylamine, a viscous liquid formed through the mixture of primary, secondary, and tertiary amines. Use of this triethylamine counteracts the free acid in castor oil, and the oil thus neutralized is washed with water, filtered, and dried, losing none of its lubricating properties in the process.

FUEL OIL TAX

CHATHAM, Ontario, Jan. 10.—Strong representations are being made by British Columbia coal interests in favor of a Federal tax on fuel oil to correspond to the royalty coal now pays to the Government. At a recent conference in Fernie, Hon. H. H. Stevens, minister of trade and commerce, expressed himself as favorable to the proposed tax, which will likely be considered at the coming session of the Dominion parliament.

MAGNOLIA COMPLETES ENLARGEMENT PROGRAM

The Magnolia Petroleum Co. has completed an extensive enlargement program affecting its Texas refineries at Beaumont, Fort Worth, Corsicana and Luling. The capacity of three of the refineries has been substantially increased, and at one place cracking equipment has been introduced. The cracking capacities at two other refineries were increased.

At its Beaumont plant, the Magnolia company raised the daily crude capacity from 55,000 bbls. to 70,000 bbls., and increased the size of the cracking facilities to 20 Cross units with a daily capacity of 55,000 bbls., an increase of 11,000 bbls. for the past year.

The daily crude capacity of the Corsicana plant was increased 1,000 bbls. to 4,000 bbls., and that of the Luling plant, 3,000 to 5,000 bbls. Two cracking units of a new type, known as "controlled coil," have been put into operation by the company. One of these units, at the plant recently purchased last year from the White Eagle Petroleum Corp., has a cracking capacity of 750 bbls., and the other, at Luling, has a capacity of 3,750 bbls.

The installations at the Beaumont plant make it one of the largest in the country. E. E. Plumly, vice president of the company, is manager of all refineries. The other officials at the general operating headquarters at Beaumont are, H. H. Ziller, assistant manager; E. E. Swope, assistant manager; R. G. Sanders, chief engineer; and W. W. Leath, chief chemist.

NEARLY THREE BILLIONS FOR U. S. 1931 HIGHWAYS

More and better roads for motorists is assured in a report which shows that more than $2,500,000,000 is represented in the road building programs projected for 1931 throughout the United States. This amount includes proposed state highway expenditure, Federal aid, and the estimated city and county expenditures during the year, and necessarily excludes any appropriations that will be created by the 44 legislatures which meet in January.

The construction plan most generally in favor, and one supported by several bills before Congress, calls for building up existing highways and laying connections to the main trunk lines leading to the larger cities and pleasure resorts. The carrying out of such a program will greatly increase the number of tourists, especially during the summer season, and a substantial increase in gasoline consumption may be expected. As a rule, plans for superhighways are being laid aside for the future.

One of the bills before Congress provides for the advancing of Federal funds to the states with which to match Federal aid dollar for dollar, the national treasury accepting long-term low interest-bearing notes from the states. Furthermore, as the appropriation for 1931 has been in the process of disbursement for some time by the state highway departments, funds for 1932 may be made available by congressional action in favor of the 1931 building schedule.

PROPOSED EXPENDITURES OF STATES ON STATE HIGHWAYS IN 1931

(This does not include any appropriations that will be created by the 44 legislatures which meet in January)

Alabama*	$15,900,000
Arizona	6,500,000
Arkansas	15,000,000
California	30,000,000
Colorado	5,000,000
Connecticut	12,600,000
Delaware	2,200,000
Florida	12,000,000
Georgia	18,000,000
Idaho	5,500,000
Illinois	31,600,000
Indiana	24,000,000
Iowa	30,000,000
Kansas*	13,700,000
Kentucky	20,000,000
Louisiana	30,000,000
Maine	13,100,000
Maryland	11,000,000
Massachusetts	20,000,000
Michigan	30,000,000
Minnesota	15,000,000
Mississippi	6,100,000
Missouri	33,500,000
Montana	4,500,000
Nebraska	10,000,000
Nevada	3,000,000
New Hampshire	5,500,000
New Jersey	36,000,000
New Mexico*	5,650,000
New York	60,000,000
North Carolina	11,000,000
North Dakota	3,500,000
Ohio	34,000,000
Oklahoma	16,000,000
Oregon	10,000,000
Pennsylvania	60,000,000
Rhode Island	4,300,000
South Carolina	22,500,000
South Dakota	6,000,000
Tennessee	12,000,000
Texas	45,200,000
Utah	4,000,000
Vermont	5,100,000
Virginia	17,000,000
Washington	12,500,000
West Virginia	14,400,000
Wisconsin	33,000,000
Wyoming	5,000,000
Proposed state highway expenditure	$840,850,000
Federal aid†	205,000,000
Estimated city expenditure	875,000,000
Estimated county expenditure	660,000,000
Total	$2,580,850,000

*No estimate returned by state highway department. Figure used based on 1930 expenditure. †Includes $80,000,000 for highway construction carried in $116,000,000 emergency appropriation act signed by President Hoover December 20, 1930. This entire fund has been made immediately available. Congress has under consideration additional Federal aid for state highways.

ANNOUNCING

A New and Larger MOON

Moon Type 8 Turbo Generator
5 and 7½ KW

WITH the advent of larger and larger oil drilling rigs has come the necessity for more and better light.

MOON, the pioneers in derrick lighting for 25 years, have met this important need with their new type 8 Turbo Generator, furnished in 5 and 7½ KW capacities.

The Type 8 contains many new and interesting features incorporated specially for oil field service. It is extremely rugged and simple in construction, remarkably smooth in operation, absolutely dependable in performance.

The fine reports we have received from the Type 8 machines now in service lead us to recommend it to you for your larger lighting job.

Let us send you full details on the new Type 8. Just ask for Bulletin No. 19.

THE MOON MFG. CO.
112-128 No. Jefferson St.
CHICAGO

MOON LIGHTING OUTFITS

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 76)

MORTON COUNTY

Hydraulic Oil Co.'s No. 1 State-Land, NW SE Sec. 22-34-43w ..... Fishing 5-in. csg. 3,460 ft.

MORRIS COUNTY

Great Britain Oil Co.'s No. 1 Ballyntine, SW SE SE, Sec. 18-16-5 ..... Fishing 1,300 ft.
Urschell et al's No. 1 Bersuch, NW SE NW Sec. 10-17-7.. Machine.
Hankerson et al's No. 1 Cessman, SW SE Sec. 24-16-9.... Rig.

NESS COUNTY

Gypsy Oil Co.'s No. 1 Coleman, C SW NE Sec. 25-17-25w. Drlg. 2,615 ft.

NORTON COUNTY

Richards et al's No. 1 Colby, Sec. 17-4-21w ..... Rig.

OSAGE COUNTY

Briggs & Smith's No. 1 Wood, SE NW Sec. 21-14-15 .... Shut down 950 ft.

PAWNEE COUNTY

Phillips' No. 1 Cuthbertson, NE cor. Sec. 27-20-18w ... Drlg. 4,079 ft.

PRATT COUNTY

Wilcox O. & G. Co.'s No. 1 Bappin, SW NW Sec. 7-26-15w ..... Shut down 4,446 ft.

RAWLINS COUNTY

Danciger Oil & Ref.'s No. 1 Unknown, SW cor. Sec. 3-2-35w ..... Shut down 2,005 ft.

RICE COUNTY

Allison-Fitzwilliams' No. 1 Blake, NE NW Sec. 9-18-10w.. Rig.
Gypsy Oil Co.'s No. 1 Koenig, SW NE Sec. 10-20-10w .... Drlg. 2,200 ft.
Muth Bros.' No. 1 Beyers, NE NW Sec. 21-19-9w ..... Sand 2,000-02 ft.; 3,000,000 ft. gas; drlg. 3,070 ft.

ROOKS COUNTY

Empire Oil & Ref. Co.'s No. 1 Halsman, SW NE SE Sec. 17-7-20w ..... Drlg. 425 ft.

RUSH COUNTY

Dewey & Mitchell's No. 1 Greenawalt, C SW Sec. 17-19-16w ..... Rig.
Syndicate Oil Co.'s No. 1 Lannen, C SW Sec. 11-18-16w... Drlg. 3,497-3,500 ft.; 15,000,000 ft. gas.

RUSSELL COUNTY

Austin Drlg. Co.'s No. 1 Rochfellow, SE cor. Sec. 6-13-12w ..... Show oil 3,042-44 ft.; bailed 18 bbls. 3 hrs.; now shut down.
Gilbreath et al's No. 1 Bratton, C NE Sec. 33-11-13w .. Shut down 2,335 ft.

SEDGWICK COUNTY

Streeter & Stearns' No. 1 Tobin, SW SE NE Sec. 5-22-2.. Drlg. 2,085 ft.
Buck et al's No. 1 McNananan, NE NW NW Sec. 2-29-1.. Rig.

SALINE COUNTY

Sampson et al's No. 1 Sudenderf, NE SE Sec. 30-14-2w. Drlg. 2,420 ft.
Twin Mounds Oil Co.'s No. 1 Weis, C W half NE-NW Sec. 20-13-4w ..... Shut down 2,700 ft.

STEVENS COUNTY

McNabb and Mid-Kansas' No. 1 Rhinehart, C NE Sec. 23-32-39w ..... Shut down 1,612 ft.

WASHINGTON COUNTY

Sincox et al's No. 1 Penwell, NW SE NE Sec. 16-3-3 .... Shut down 1,720 ft.

DOMESTIC EXPORTS OF PETROLEUM AND REFINED PRODUCTS

	Month of Nov., 1929	Month of Nov., 1930	11 months ended Nov., 1929	11 months ended Nov., 1930
Petroleum—				
Crude ..... Bbls.	2,579,532	1,765,205	24,305,248	22,365,495
Crude ..... $	3,933,680	1,968,715	34,730,509	30,620,067
Total refined—				
Petroleum ..... Bbls.	9,413,896	7,187,747	114,727,371	113,326,279
Petroleum ..... $	33,318,805	24,095,900	449,333,027	411,484,471
Gasoline, naphtha and other light products ..... Bbls.	3,951,882	3,548,547	54,049,006	58,972,881
Gasoline, naphtha and other light products ..... $	17,676,026	12,386,546	241,497,131	236,973,124
Oils, illuminating ..... Bbls.	1,302,352	977,806	18,144,302	15,378,803
Oils, illuminating ..... $	5,457,717	3,509,286	77,148,925	58,288,339
Gas and fuel ..... Bbls.	3,554,696	1,862,368	32,598,843	29,689,891
Gas and fuel ..... $	3,450,758	2,020,126	34,088,079	30,643,762
Lubricating ..... Bbls.	590,252	788,772	9,763,634	9,141,053
Lubricating ..... $	6,509,426	6,051,354	94,173,328	83,617,735
Other refined petroleum ..... Lbs.	14,714	10,254	171,586	143,651
Other refined petroleum ..... $	224,878	128,588	3,425,564	1,961,511
Paraffin wax ..... Lbs.	26,668,140	23,408,543	292,881,570	265,312,056
Paraffin wax ..... $	1,062,946	764,786	13,024,893	9,629,047

MANY STATES SHOW DECLINES IN OCTOBER

(Continued from Page 149)

lons; Virginia, 2,825,000 gallons; Tennessee, 2,589,000 gallons; Missouri, 2,556,000 gallons; Indiana, 2,256,000 gallons; Wisconsin, 2,057,000 gallons, and Iowa, 1,908,000 gallons.

An analysis of the situation in the 18 states showing decreases involves the consideration that the figures available on gasoline consumption come from the tax reports, and that the steadily increasing exemptions will account for a good percentage of the drops shown in the reports for gasoline consumption as the reports do not show the amount of gasoline used upon which no tax was paid.

The average daily consumption for October, 1930, was 38,647,000 gallons, or a 7.7 per cent decrease from the amount consumed in September, 1930, when the daily average was 41,868,000 gallons.

An increase of 527,691,000 gallons, or 6 per cent, is shown in the reports of 44 states and the District of Columbia for the first 10 months of 1930, when 9,311,266,000 gallons were consumed. This report does not include New York and Illinois, where 1929 figures are unavailable.

GASOLINE CONSUMPTION BY STATES, OCTOBER, 1930

State—	Month of Oct., 1930 (gals.)	Month of Oct., 1929 (gals.)
Alabama	14,906,000	16,858,000
Arizona	6,335,000	6,464,000
Arkansas	12,780,000	13,417,000
Colorado	14,930,000	14,086,000
Connecticut	20,225,000	18,835,000
Delaware	3,225,000	3,201,000
District of Columbia	7,403,000	6,473,000
Florida	17,490,000	17,000,000
Georgia	19,554,000	20,459,000
Idaho	5,953,000	5,903,000
Illinois	87,485,000	83,211,000
Indiana	42,423,000	40,167,000
Iowa	35,592,000	33,684,000
Kansas	29,387,000	30,126,000
Kentucky	15,426,000	14,867,000
Louisiana	16,362,000	17,145,000
Maine	11,049,000	10,208,000
Maryland	16,171,000	16,313,000
Massachusetts	47,696,000	47,786,000
Michigan	70,424,000	72,128,000
Minnesota	37,726,000	36,960,000
Mississippi	*11,925,000	13,384,000
Missouri	40,152,000	37,596,000
Montana	7,370,000	7,805,000
Nebraska	19,730,000	19,694,000
Nevada	1,633,000	1,656,000
New Hampshire ...	6,020,000	5,750,000
New Jersey	48,690,000	44,329,000
New Mexico	4,364,000	4,219,000
New York	136,503,000	126,971,000
North Carolina	22,563,000	25,242,000
North Dakota	10,329,000	12,830,000
Ohio	82,762,000	87,624,000
Oklahoma	27,196,000	28,620,000
Oregon	15,197,000	15,061,000
Rhode Island	3,173,000	6,899,000
South Carolina	10,815,000	10,291,000
South Dakota	11,520,000	12,388,000
Tennessee	20,750,000	18,181,000
Texas	66,319,000	68,663,000
Utah	5,320,000	5,332,000
Vermont	4,799,000	4,592,000
Virginia	22,348,000	19,523,000
Washington	22,560,000	22,998,000
West Virginia	13,663,000	12,660,000
Wisconsin	41,187,000	39,130,000
Wyoming	3,138,000	3,261,000
Total	1,198,068,000	1,178,970,000
Daily average ...	38,647,000	38,031,000
Inc. over prev. year:		
Amt. of increase.	19,098,000	.....
% inc. in dy. ave.	1.6	.....

*Estimated.

LEBUS

Circulating and Releasing Overshot

—FORGED STEEL

—ACME THREADS

—RELEASING SLIPS

—Steel Packer Attachment with Rubber Inserts

Patent Nos. 1493350, 1780134
Other Patents Pending

The LeBus Overshot for fishing after plain pipe, tool joint or collar, is made of all-forged steel with scientifically heat treated slips. The releasing keys are made solid to the body and are constructed, as shown in the drawing, so the slips at any position have a full end thrust against the keys. This is an assurance that the slips are always in a position to be operated for releasing.

The packer attachment is made to prevent the collar or tool joint from passing through the slips, so that when a release is to be made the slips do not have to come back over the bottom shoulder, but have only to travel back over the body of the collar or tool joint. This is done by rotating slowly to the right and taking approximately one-inch strain to each revolution made with the Overshot.

A shut-off for circulation is affected by the pipe passing through the rubber insert or by the collar or tool joint seating against the rubber insert. Heavy pump pressure makes both inserts tighter when trying to circulate.

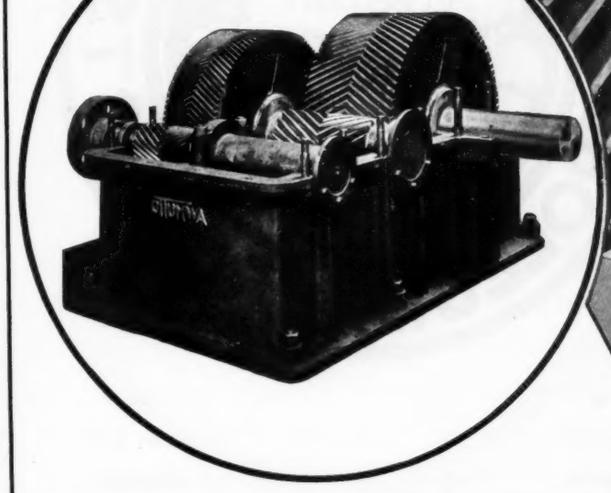
MANUFACTURED BY

LeBus Rotary Tool Works

"BETTER ROTARY EQUIPMENT"

ELECTRA, TEXAS U. S. A.

—smooth, quiet power transmission



OTTUMWA

SPEED REDUCERS

—in any size and for whatever speed reduction and power transmission duty you may require. OTTUMWA Speed Reducers are equipped with OTTUMWA Sykes fully Generated, Continuous Tooth Herringbone Gears—the finest gears it is possible to make. Perfect tooth contours, together with the inherent strength and advantage of the Continuous Tooth, make OTTUMWA Sykes Herringbone Gears the best known method of transmitting power between shafts with parallel axis.

OTTUMWA Speed Reducers are built unusually strong and rigid — the cases are heavily ribbed — special analysis steel shafts turn in frictionless bearings automatically lubricated. They are built to give long service under the severe conditions of oil field usage.

Many of your present cumbersome, power-wasting drives can be replaced to great advantage by specially designed, efficient OTTUMWA Continuous Tooth Herringbone Gear drives.

Manufacturers of oil field machinery, as well as operators, are invited to ask experienced OTTUMWA engineers to show how power can be saved and drives made more compact. Send the coupon below.

OTTUMWA can furnish you with generated Herringbone or Spur Gears in any size up to 123" diameter, 24" face.

OJ-1

OTTUMWA IRON WORKS

ESTABLISHED 1867 OTTUMWA, IOWA

Gentlemen: I would like to have:

☐ Information on how Ottumwa Continuous Tooth Herringbone Gears can add to the efficiency of our ---------- Machinery. (Send blueprints of layout with loads and speeds indicated).

☐ OTTUMWA GEAR CATALOG.

Name ----------

Address ----------

City ---------- State ----------

STEAM REFINED STOCKS

WHITE OAK PETROLEUM PRODUCTS

FOR CONSTANT QUALITY

Mineral Spirits

Kerosene Distillates Gas Oil

Cleaners Napthas
68-70 E. P. 360
64-66 E. P. 375
60-62 E. P. 400
58-60 U. S. Motor
Anti-Knock Gasoline

V. M. & P. Naptha

Furnace Oil Fuel Oil Wax Distillate

WHITE OAK
REFINING COMPANY
Refiners and Marketers
Subsidiary of Gulf States Terminal and Transport Co., Inc.
Export Terminal—New Orleans, La.
14TH FLOOR HUNT BUILDING - - - TULSA, OKLAHOMA
Cable Addresses: "Expetco," Tulsa ◆ ◆ "Expetgulf," New York—Bentley's Code

BRANCH OFFICES:
60 East 42nd Street NEW YORK CITY
Builders Exchange MINNEAPOLIS, MINN.
728 Esperson Building HOUSTON, TEXAS
208 South La Salle Street CHICAGO, ILLINOIS
727 West 7th Street LOS ANGELES, CALIF.

REFINERIES:
ALLEN, OKLAHOMA
OKLAHOMA CITY
LULING, TEXAS
BROWNWOOD, TEXAS

INDUSTRIAL NAPTHAS

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 74)

Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10 ..... T. D. 4,775 ft.; Cromwell sand 4,760-68 ft.; water; plugged back to 4,275 ft.; shot 40 qts.; no results; abandoned.

KAY COUNTY

Wilright Gas Co.'s No. 1 Wildegrube, NE SW Sec. 14-27-1 ..... Drlg. 500 ft.
Lewis et al's No. 1 Harris, SE NW Sec. 14-25-1 ..... Location.
Peters & Buckles' No. 1 Hayes, NW NE NW Sec. 24-28-3 ..... Drlg. 1,550 ft.
Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE Sec. 9-27-2 ..... Drlg. 2,040 ft.
Blackwell Oil & Gas Co.'s No. 1 Harshman, Sec. 2-26-1w. Rig on ground.
Boucher Oil Co.'s No. 1 Jefferson, NE SW Sec. 32-26-1w. Fishing 1,175 ft.

KINGFISHER COUNTY

Prairie and Slick's No. 1 Wright, C NW SW Sec. 23-15-5w ..... T. D. 6,890 ft.; plugged back to 5,100 ft.; shot 80 qts. at 5,045-56 ft.; no show.
Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w ..... Abandoned 7,931 ft.

KIOWA COUNTY

Christian's No. 1 Jones, NE SE Sec. 8-7-18w ..... Rig.

LATIMER COUNTY

Mid-Western's No. 1 Unknown, C SE NW Sec. 15-6-21.... Spudding.
P. English's No. 1 Unknown, NW SE Sec. 16-6-19 ..... Shut down 200 ft.
Mid-Western Oil & Gas' No. 1 Bullo, C E half SW Sec. 3-6-19 ..... Drlg. 2,300 ft.
LeFlore Oil Co.'s No. 1 McBee, NW cor. Sec. 3-7-21 ..... Shut down 3,601 ft.

LINCOLN COUNTY

Mote-Wheeler's No. 1 Stafford, NW NE Sec. 32-17-4 .... Drlg. 1,300 ft.

LOGAN COUNTY

Eason Oil Co.'s No. 1 Young, C SW NE SW Sec. 34-17-4w. Sand 4,919-42 ft.; made 870 bbls. 21 hrs. and 485 bbls. the second 24 hrs.

McINTOSH COUNTY

Patterson et al's No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Drlg. 5,682 ft.

McLAIN COUNTY

Prairie's No. 1 Parkinson, SW NW Sec. 22-7-2w ..... Drlg. 6,320 ft.

MUSKOGEE COUNTY

Rebold's No. 1 Miller, SE NE NE Sec. 32-13-19 ..... Rig.
Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 .... Shut down 1,011 ft.

NOBLE COUNTY

Barnsdall's No. 1 Miksch, NW SW Sec. 12-21-1 ..... Drlg. 4,655 ft.

OKFUSKEE COUNTY

Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9 ..... Shut down 4,127-57 ft.; water; plugged back to 3,161-85 ft.; showing 10 bbls.
E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9 ..... Location.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10 .. Shut down 3,690 ft.

OKLAHOMA COUNTY

L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w ..... Shut down 5,515 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Messer, SW cor. Sec. 32-14-3w ..... Wilcox 6,697-6,771 ft.; shot with 90 qts. and 140 qts.; made 2,627 bbls. 7 days; comp. for 70 bbls.
Warr et al's No. 1 Castle, SW NW Sec. 20-11-3w ..... Wilcox 7,347-7,450 ft.; water; shut down.
J. F. Cuniff, trustee's No. 1 Church Land, NE SW SE Sec. 17-12-4w ..... Shut down 6,700 ft.

OSAGE COUNTY

Millard & Stanley's No. 1, SE SW Sec. 4-28-7 ..... Drlg. 1,165 ft.

PAWNEE COUNTY

Rockstool's No. 1 Wylie, NW NE SW Sec. 6-20-5 ..... Drlg. 1,800 ft.
Sperry et al's No. 1 Mullrap, SE SW Sec. 2-22-5 ..... Shut down 1,740 ft.
L. E. Wentz' No. 1 G. Lilly, SE SW NE Sec. 26-22-3 .... Drlg. 4,094 ft.
Cochran et al's No. 1 Green, NE cor. SW Sec. 15-23-5 ... Rig.

PITTSBURG COUNTY

J. Morrison's No. 1 Fowler, NE SE Sec. 13-7-17 ..... Rig.
C. Kennedy's No. 1 Travis, C SW NE Sec. 15-7-14 ..... Rig.
C. Canady's No. 1 Jones, NW cor. Sec. 14-8-14 ..... Rig.

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW Sec. 23-12-24w ..... Drlg. 2,910 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w .... Shut down 2,905 ft.

SEMINOLE COUNTY

Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 35-5-5 ..... Location.

STEPHENS COUNTY

Junior Oil Co.'s No. 1 Thompson, CNL SE SE Sec. 1-1-7w ..... Rig.
Ross Southard's No. 1 McKinney, NE cor. Sec. 25-1-8w... Shut down 1,063 ft.
G. Pace et al's No. 1 Pruitt, SW cor. SE Sec. 8-1-9w .... Drlg. 625 ft.

WASHITA COUNTY

Cooper & Terhune's No. 1 Blocker, NW cor. Sec. 29-8-19w. Drlg. 492 ft.
Burns & Prince's No. 1 Deck, SW cor. Sec. 21-8-18 ..... Drlg. 25 ft.
Petroleum Holdings, Inc.'s No. 1 Musie, NW cor. Sec. 10-9-20w ..... Shut down 280 ft.

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-22-17w ..... Shut down 1,387 ft.
Prairie Oil & Gas Co. et al's No. 1 Wilbur, NE cor. NW Sec. 22-23-17w ..... Shut down 7,445 ft.

OKLAHOMA PANHANDLE

TEXAS COUNTY

Three Way Oil Co.'s No. 1 Crane, SW NW Sec. 11-1-1S ..... Shut down 4,425 ft.
Palo Alto Oil Co.'s No. 1 Graves, NE SW SW Sec. 23-2-1Se ..... Spudded; shut down.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Bryant et al's No. 1 Southern Trust, C SW SW Sec. 3-1s-14 ..... 747-50 ft.; show oil to test.
Stewart-Howland's No. 1 Howard, NW SE NW Sec. 6-4s-11 ..... Shut down 100 ft.
Brookshire's No. 1 R. W. Rowland, NW NE SE Sec. 18-3s-10 ..... Shut down 400 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW Sec. 7-7-10.. Shut down 510 ft.
Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9 ..... Shut down 525 ft.
Johnson et al's No. 1 Ussery, SE SW SE Sec. 14-16s-7e.. Shut down 485 ft.
Marshall's No. 2 Fee, C SW NW Sec. 26-5s-7 ..... Shut down; 6-in. csg. 265 ft.

CARTER COUNTY

Campen-Lasater Co.'s No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ..... Cleaning out 2,590 ft.

COTTON COUNTY

Gilbert-Lowery's No. 1 Harneg, C SE SE Sec. 4-2S-11w... Rig.

JEFFERSON COUNTY

J. B. Brown et al's No. 1 Norlett, SW NW NE Sec. 35-7s-8w ..... Drlg. 1,775 ft.
Mutual Oil Co.'s No. 1 Sharp, SE NW Sec. 3-5s-8w ..... Shut down 805 ft.

LOVE COUNTY

G. Pace et al's No. 1 Burkhart, NE NW Sec. 13-8s-1 .... Shut down 660 ft.
Batson & Sterrette's No. 1 Dillard, SE NE NW Sec. 25-6s-2 ..... Rig.
Hobbs et al's No. 1 Roberts, NE cor. SW Sec. 20-6s-3w... Shut down 3,130 ft.

MARSHALL COUNTY

D. H. Curry's No. 1 Ward, NE SE SW Sec. 15-5s-6 ..... Shut down 1,275 ft.
McCrory et al's No. 1 Adams, NE SW SE Sec. 31-7s-6.... Shut down 490 ft.
Akers et al's No. 1 Spicer, SW SE SE Sec. 33-5s-7e ..... Shut down 370 ft.

McCURTAIN COUNTY

Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 ..... Shut down 2,287 ft.

STEPHENS COUNTY

Obermyer et al's No. 1 Skelton, NE SW SW Sec. 32-1S-7w ..... Shut down 1,375 ft.

WILDCAT OPERATIONS IN MISSISSIPPI

CLAY COUNTY

Company, farm and location— Remarks—

Ohio Oil Co.'s No. 1 Cantrell, NE cor., Sec. 16-15-5 ... Drlg. 2,835 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor., Sec. 20-13-3 ... S.D. 1,700 ft.

COVINGTON COUNTY

S. P. Borden et al's No. 1 McIntosh, 330 ft. S, 330 ft. W, NE cor. SW NE, Sec. 5-8-16 ... Began drlg. Dec. 31; cmtd. 12½-in. 805 ft.

Miss. Gulf O. & G. Co.'s No. 1 Pope, 200 ft. N, 200 ft. W, SE cor. W½ NW NE, Sec. 35-8-16 ... Drlg. 1,000 ft.

GRENADA COUNTY

Carter-Pace's No. 1 Dubard (was F. E. West et al's), NW NW, Sec. 18-22-4 ... Rig up.

HINDS COUNTY

Attkisson & Greer's No. 1 Downing et al, SE NE, Sec. 27-6-1 ... Rigging up.

Attkisson & Dyer's No. 1 Wiggins, Sec. 33-6-1e ... Cmtg. 4½-in. 2,490 ft.

Cane River O. & G. Co.'s No. 1 Kabbles, NE cor. SW SW, Sec. 15-5-1e ... Coring in red beds 3,240 ft.

Gulf Ref. Co.'s No. 1 McLaurin, 1,230 ft. S, 1,410 ft. W, NE cor., Sec. 30-6-2e ... Cmtd. 9-in. 2,466 ft.

Howard Oil Co.'s No. 1 Jackson College, C NW NW, Sec. 9-5-1e ... Began drlg. Dec. 22; cemented one joint 12½-in.; shut down.

Iowa Gas Co.'s No. 1 Payne, 410 ft. W, 570 ft. N, SE cor. NW NW, Sec. 15-5-1e ... Top chalk 2,476 ft.; arranging cement 6⅝-in.

Jackson Oil Co.'s No. 1 Central Cotton Oil Co., NW cor. SW NW, Sec. 3-5-1e ... Rig up.

Dr. Barney Kennedy's No. 1 fee, 150 ft. E, 200 ft. N, SW cor. NE NE, Sec. 34-6-1e ... Location.

Miss. Pet. Co.'s No. 1 Solvent Inv. Co., NE cor. NE SW SW, Sec. 14-5-1w ... Fsg. 3 joints; D.S.; T.D. 3,042 ft.

Tri-State O. & G. Co.'s No. 1 Wilson, 320 ft. E, 240 ft. N, SW cor. SE NE, Sec. 23-6-1e ... Began drlg. Dec. 22; S.D. 20 ft.

HUMPHRIES COUNTY

E. S. Steele et al's No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w ... Set 12½-in. 60 ft; S.D.

JASPER COUNTY

Bay Springs Pet. Co.'s No. 1 Keys, C NW NE, Sec. 21-2-10 ... Began drlg. Dec. 16; cmtd. 15½-in. 104 ft.

LAUDERDALE COUNTY

J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-16-14 ... Derrick.

LAFAYETTE COUNTY

Banks-Good et al's No. 1 May, 113½ rds. S, 26 rds. E, NW cor. SW, Sec. 22-10-1w ... Derrick.

MADISON COUNTY

Central O. & G. Co.'s No. 1 Cameron, 200 ft. W, 200 ft. N, SE cor., Sec. 11-9-1e ... Cmtd. 10-in. 201 ft.; drlg. 1,025 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ... Arranging shoot; T.D. 2,400 ft.

Amory Pet. Co.'s No. 3 Carter, C SE SE, Sec. 7-13-17 ... Coring 2,388 ft.

Amory Pet. Co.'s No. 1 Harris, SW cor. SE SE, Sec. 18-13-17 ... Derrick.

Associated Oil Co.'s No. 1 School, SW cor. SW SE, Sec. 16-15-17 ... S.D; W.O. 32 ft.

Park Bowser et al's No. 1 Cowart, second hole, Sec. 2-12-19 ... S.D. 1,125 ft.

NESHOBA COUNTY

Collins et al's No. 1 J. M. Carter, SE SE, Sec. 29-11-12 ... Derrick.

RANKIN COUNTY

Ganzel et al's No. 1 Stallings, 280 ft. S, 280 ft. E, NW cor. NE NE, Sec. 25-5-1e ... Rigging up.

R. A. Moore et al's No. 1 Interior Lbr. Co., Sec. 28-6-1e ... S.D. 900 ft.

Cleve Love's No. 1 Muse, SE cor. SW SW, Sec. 32-7-4e ... Drlg. gumbo 1,080 ft.

Love Pet. Co.'s No. 1 Moore (was Interior Oil Co.'s), 660 ft. N, 660 ft. W, SE cor. NW NW, Sec. 28-6-2e ... S.D. 900 ft.

Millstein O. & G. Co.'s No. 1 Gammill-Hartsfield, 400 ft. E, 400 ft. N, SW cor. SW SE, Sec. 6-5-2e ... Cmtd. 6⅝-in. 2,498 ft.; T.D. 2,503 ft.

Sabine O. & G. Co.'s No. 1 Taylor, SE cor. SW NE, Sec. 6-5-2e ... Top chalk 2,448 ft; W.O.

Jackson Royalties, Inc.'s No. 1 Pate, NE cor. NE SE, Sec. 12-5-1e ... Began drlg. Oct. 5; cmtd. 12½-in. 280 ft; drlg. shale 2,120 ft.

Cleve Love et al's No. 1 Brown, C NW SE, Sec. 12-5-1e ... Began drlg. Oct. 9; drlg. 1,200 ft.

Pearl River O. & G. Co.'s No. 2 Pate, SE cor. SW SE, Sec. 12-5-1e ... Began drlg. Oct. 7; cmtd. 10-in. 292 ft.

WARREN COUNTY

Dixie Pet. Co.'s No. 1 Clark, 300 ft. E, 660 ft. S, NW cor. Sec. 31-17-5 ... Rigging up.

Raymond A. Moore, et al's No. 1 Clark, SE, Sec. 31-16-5 (no check) ... Derrick.

Vicksburg Oil Co.'s No. 1 Dornbush, 2,080 ft. S, 1,520 ft. W, NE cor., Sec. 8-18-5 ... S.D. 1,600 ft.

WINSTON COUNTY

Miss. Drlg. Co.'s No. 1 Scarbrough, NW cor., Sec. 15-12-14 ... Drlg. 1,784 ft.; corrected depth.

YALOBUSHA COUNTY

Collett-Carter Oil Co.'s No. 2 Blackmur, 990 ft. W, 285 ft. N, C, Sec. 14-11-4 ... Began drlg. Dec. 31; drlg. 1,000 ft.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 80)

Humble & Valley's No. 12 Thompson ... Drlg. shale and sandy shale 3,137 ft.

Humble & Valley's No. 6 Woodley ... Derrick.

Humble & Valley's No. 7 Woodley ... Derrick.

Humble & Valley's No. 8 Woodley ... Derrick.

Humble & Valley's No. 9 Woodley ... Derrick.

HUMBLE—HARRIS COUNTY

John Deering's No. 1 Graff (workover) ... Drlg. shale 5,242 ft.

P. S. Griffith's No. 1 fee ... Abandoned in shale 5,501 ft.

LaRue, trustee's No. 1 Crane, northwest ... Derrick.

M. LaRue's No. 1 Tuffly, northwest ... Gumbo 1,405 ft.; shut down.

Southern Coastal Oil Co.'s No. 2 Perkins ... Standing sand and shale 2,752 ft.

Sun Oil Co.'s No. 13 Bender (workover) ... Standing 4,589 ft.

Sun Oil Co.'s No. 18 Bender ... Drlg. shale 4,539 ft.

Sun Oil Co.'s No. 19 Bender ... Drlg. shale and shell 3,600 ft.

Trapshooter Oil Co.'s No. 3 Rosenbaum ... Shale 4,067 ft.; preparing to pump.

Trapshooter Oil Co.'s No. 10 Neill, northwest ... Salt 1,806 ft.; to test sand showing oil 1,793-1,805 ft.

E. M. Wilson's No. 6 Wheeler & Pickens ... Sidetracking 1,451 ft.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Prod. Co.'s No. 2 Manchester Corp. ... Drlg. hard sand and lime 3,109 ft.

Mike Kouri's No. 1 Jones fee, northwest ... Shale and lime 4,020 ft.; fishing.

Rio Bravo Oil Co.'s No. 14-A Settegast, west ... Set 32 ft. 4½-in. screen 5,091 ft.; comp. flowing 480 bbls. 39.2 gravity oil on ⅝-in. choke; pressure 125 lbs.

BIG CREEK—FORT BEND COUNTY

Gulf Prod. Co.'s No. 61 Davis ... Drlg. gumbo 1,849 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 5 Lost Lake ... Total depth 5,847 ft.; plugged back to 5,120 ft.

NASH—BRAZORIA COUNTY

Harrison & Abercrombie's No. 27 Wisdom ... Total depth 5,662 ft.; drlg. heaving shale 5,583 ft.

A MECHANIC

Speaks His Mind About

MOTOR OIL

After having used Humble Motor Oils for a considerable period, the chief mechanic of a big motor transport line in the Southwest wrote the following letter:

"I am pleased with the wonderful results we have been receiving from your Humble Motor Oils, which we are using in all our trucks. You have greatly assisted us in reducing the expense of lubrication and upkeep on our equipment by being able to furnish us with the quality of oils that you have in your Humble Motor Oils. These Oils are superior in quality to any oils that I have ever used."

This letter illustrates but one of many like experiences with Humble Motor Oils. These oils are tough and enduring. They seal compression, leave a small amount of light, easily removed carbon, and lubricate efficiently and economically under all loads, speeds, and temperatures encountered in modern transport or passenger-car service. For complete details regarding the advantages to be derived from the use of Humble Motor Oils, address the nearest Humble Agent, or the

HUMBLE OIL & REFINING CO. HUMBLE OILS HOUSTON, TEXAS

Humble Oil & Refining Company

Houston, Texas

Billions of Bubbles

Meet the Whole Family

FOR the convenience of those that have not received the Campbell General Catalog, here is an alphabetical list of apparatus contained therein:

Absorbers ("Oil-Froth")
Absorption Plants, Complete
Boiler Plants
Cooling Coils ("Cool-R-Units")
Cooling Towers
Dephlegmators
Dewatering Tanks
Equalizing Tanks
Evaporators (Stills)

Floating Roofs for Tanks ("C & B")
Fractionators ("Oil-Froth")
Gauging Equipment ("C & B")
Heat Exchangers
Integral Floats ("C & G")
Loading Equipment for Trucks and Tank Cars ("C & B")

"MIST-D-FIERS" for scrubbing gas
Mist Extractors
Pre-Heaters
Remote Liquid Level Controls ("C & G")
Separators for Gas and Oil
Vapor Recovery Plants

All the above equipment described in our General Catalog. A copy will be mailed you upon application.

J. A. CAMPBELL CO.
Natural Gas Engineers
CONSULTING DESIGNING CONSTRUCTING
PHONE-41693
P.O. DRAWER 669
LONG BEACH, CAL.

STEARNS-ROGER MFG. CO., DENVER
MID-CONTINENT AGENCY

Originators of Oil-Froth Absorbers

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 100-A Cotton — To pump 539 ft.
Rio Bravo Oil Co.'s No. 104-A Cotton — Comp. flowing 5 bbls. in 12 hours 580 ft.

SPINDLETOP—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 68 McFaddin (workover) — Comp. flowing 115 bbls. pipe line oil 4,285 ft.
Yount Lee Oil Co.'s No. 91 McFaddin (workover) — Rig up to deepen.
Yount Lee Oil Co.'s No. 117 McFaddin (workover) — Comp. flowing 810 bbls. pipe line oil 5,214 ft.
Yount Lee Oil Co.'s No. 145 McFaddin — Rig.

NORTH DAYTON—LIBERTY COUNTY

Harrison & Abercrombie's No. 1 Blewett — Drlg. water sand 4,119 ft.
Harrison & Abercrombie's No. 1 Jones — Total depth 4,625 ft.; sidetracked to 4,313 ft.; abd. in anhydrite.
Harrison Oil Co.'s No. 4 Quintette (workover) — Total depth 6,077 ft.; drlg. sticky shale 4,463 ft.

HIGH ISLAND—GALVESTON COUNTY

Gulf Prod. Co.'s No. 10 Smith — Sticky shale 6,021 ft.
Marrs McLean's No. 12 Cade (workover) — Drlg. hard sand 4,490 ft.
Marrs-McLean's No. 19 Cade — Deepened to 4,004 ft.; comp. flowing 520 bbls.
Marrs McLean's No. 20 Cade — Rig standing.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 27 Moore — Set 1 joint 4½-in. screen 3,540 ft.; comp. flowing 650 bbls. pipe line oil 27.2 gravity, pressure 365 lbs.

HULL—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 22 Barngrover — Comp. flowing 150 bbls. 3,996 ft.
The Texas Company's No. 4 Barrow — Drlg. sticky shale 3,580 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 1 Grimm — Set 101 ft. 4¾-in. screen 1,260 ft.; comp. flowing 880 bbls., 45 per cent b.s. and water.
Sun Oil Co.'s No. 4 Janner — Drlg. anhydrite 3,633 ft.
Sun Oil Co.'s No. 1 Freeman — Drlg. anhydrite 3,156 ft.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Oil Co.'s No. 3 Davis (workover) — Rigging up to work over.
Cranfill-Reynolds Oil Co.'s No. 5 Esperson — Drlg. shale 6,424 ft.
Cranfill-Reynolds Oil Co.'s No. 1-C Kirby fee — Drlg. gumbo 3,679 ft.
Yount Lee Oil Co.'s No. 3 Moore's Bluff — Total depth 7,836 ft.; set 1 joint 5-in. screen 2,776 ft.; tested salt water.

HANKAMER—LIBERTY COUNTY

Gulf Prod. Co.'s No. 1 Ezzel — Drlg. hard sand 6,739 ft.
Gulf Prod. Co.'s No. 11 Boyt — Rig.

BOLING—WHARTON COUNTY

C. S. Thomas' No. 1 Volney — Standing shale 535 ft.

REFUGIO—REFUGIO—COUNTY

Brookins et al's No. 1 Kay — Shut down 4,320 ft.
Houston Oil Co.'s No. 15 Pratt-Hewitt-Rooke — Drlg. sticky shale and lime 3,000 ft.
Houston Oil Co.'s No. 2 Rea (workover) — Pulled tubing and cleaned hole to work over 3,683 ft.
Houston Oil Co.'s No. 4 Mrs. M. H. Ryals — Set 13⅜-in. casing 539 ft.
Houston Oil Co.'s No. 13 F. V. W. Heard — Set 13⅜-in. casing 527 ft.
Houston Oil Co.'s No. 1 Rooke — Sand 6,186-94 ft.; trying to make drill stem test.
Houston Oil Co.'s No. 2-A Fannie Heard — Set 20-ft. screen; comp. flowing 600 bbls. pipe line oil 6,459 ft.
Houston Oil Co.'s No. 1 Doughty — Sand 6,452-65 ft.; cem. 4½-in. casing 6,435 ft.
Houston Oil Co.'s No. 1 Tom Heard — Comp. flowing 250 bbls. pipe line oil 6,462 ft.
Houston Oil Co.'s No. 1 O'Connor — Total depth 5,913 ft.; plugged back to 5,901 ft.; swabbing.
Houston Oil Co.'s No. 1 Carlisle, Blk. 33 — Comp. pumping 100 bbls. 3,717 ft.
Ed. Jones' No. 1 Kelly, Blk. 106 — Drlg. shale 4,732 ft.
Luling Oil & Gas Co.'s No. 1 J. W. Kay — No report.
Luling Oil & Gas Co.'s No. 1 City, Blk. 86 — Location.
Luling Oil & Gas Co.'s No. 1 City, Blk. 105 — Drlg. sticky shale 3,900 ft.
Moody-Seagraves-Karona's No. 1 F. Hayser — Drlg. hard sand 5,208 ft.
Moody-Seagraves Prod. Co.'s No. 6 Morgan-O'Connor — Location.
Moody-Seagraves and Phillips Pet. Co.'s No. 3-B J. F. B. Heard — Sand showing oil 3,653-61 ft.; cem. 8¼-in. casing.
Moody-Seagraves' No. 1-A O'Brien — Set 12½-in. casing 1,180 ft.
Moody-Seagraves Prod. Co.'s No. 3 O'Brien — Set 8¼-in. casing 5,785 ft.
Moody-Seagraves and Phillips Pet. Co.'s No. 1-C J. F. B. Heard (Independent) — Sand 6,432-43 ft.; set 18-ft. screen; comp. flowing 308 bbls. in 21 hrs.
Nichols Oil Co.'s No. 1 Wood — Drlg. hard lime rock 3,930 ft.
Pearson Properties, Inc.'s No. 1 Hornburg — Derrick.
Saxet Oil Co.'s No. 6-A W. Heard (workover) — Total depth 3,472 ft.; sidetracking 2,150 ft.
Saxet Oil Co.'s No. 1 L. H. Johnson, Blk. 11 — Location.
Saxet Oil Co.'s No. 1 Fox heirs (workover) — Total depth 3,963 ft.; shut down.
Sun Oil Co.'s No. 3 Rea — Total depth 3,654 ft.; milled out 3,181 ft.; reaming.
L. L. Smith's No. 2 Rogers, James Power Sur. — Total depth 3,641 ft.; set screen; comp. flowing 520 bbls. pipe line oil; turned to 90 per cent water; pulled screen to deepen.
L. L. Smith's No. 1 L. M. Rogers, Blk. 87 — Drlg. shale and lime 5,713 ft.
Traylor, Rutherford & Traylor's No. 1 Rogers heirs, James Powers Sur. — Drlg. shale 3,602 ft.
United Prod. Corp.'s No. 3 Fox (workover) — Rigging up to workover 3,675 ft.
United Prod. Corp.'s (Union) No. 11 Fannie Heard — Coring sand 3,943 ft.
United Prod. Corp.'s (Union) No. 12 Fannie Heard — Location.
United Prod. Corp.'s (Union) No. 2 Moss-Powers, Blk. 109 — Derrick.
United Prod. Corp.'s (Union) No. 5 O'Brien (workover) — Drlg. sandy shale 6,326 ft.
United Prod. Corp.'s (Union) No. 7 O'Brien, Blk. 85 — Cem. 9-in. (O.D.) casing 4,507 ft.
United Prod. Corp.'s (Union) No. 8 O'Brien — Drlg. sticky shale and lime 3,616 ft.
United Prod. Corp.'s (Union) No. 5 Powers — Oil sand 6,458-61 ft.; set screen.
United Prod. Corp.'s (Union) No. 7 Powers — Location.
United Prod. Corp.'s (Union) No. 8 Powers, Blk. 82 — Drlg. sticky shale 4,404 ft.
United Prod. Corp.'s (Union) No. 6 Nancy J. Ryals — Drlg. lime 1,970 ft.
United Prod. Corp.'s (Union) No. 1 Rose Lambert — Location.
United Prod. Corp.'s (Union) No. 1 Shelton — Drlg. gumbo and lime 5,286 ft.
United Prod. Corp.'s (Union) No. 1 J. Shay — Location.
United Prod. Corp.'s (Union) No. 3 Mitchell (workover) — Total depth 6,458 ft.; set 18-ft. screen; comp. flowing 530 bbls. oil.
United Prod. Corp.'s (Union) No. 5 Mitchell — Drlg. shale and lime 5,377 ft.

SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Union Sulphur Co.'s No. 1 Martha Moss — Total depth 7,119 ft.; tested salt water 6,622 ft.; abandoned.
Union Sulphur Co.'s No. 2 Martha Moss — Derrick.
Vacuum Oil Co.'s No. 9 Bordages — Rig.
Vacuum Oil Co.'s No. 8 Farquahar — Drlg. sticky shale 4,262 ft.
Vacuum Oil Co.'s No. 12 Miller (workover) — Pulled screen to deepen 4,396 ft.
Vacuum Oil Co.'s No. 28 Miller — Total depth 5,623 ft.; sidetracked to 3,709 ft.; set screen; to test.
Vacuum Oil Co.'s No. 30 Miller — Total depth 4,380 ft.; comp. flowing 900 bbls., ⅝-in. choke.
Vacuum Oil Co.'s No. 31 Miller — Drlg. sand and gravel 593 ft.

EDGERLY—CALCASIEU PARISH

Rex Petroleum Co.'s No. 13 Hunter — Comp. pumping 60 bbls. oil 4,043 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 21 Watkins (workover) — Oil sand 4,078-96 ft.; set 1 joint screen; comp. flowing 1,400 bbls. fluid, 75 per cent water, ⅝-in. choke, pressure 325 lbs.
Calcasieu Oil Co.'s No. 25 Watkins — Derrick.
Calcasieu Oil Co.'s No. 9 Valery — Fishing drill stem 3,137 ft.
R. E. Seiss' No. 2 J. M. Vincent — Shut down 510 ft.

The Texas Company's No. 8 State ..... Location.
Yount Lee Oil Co.'s No. 34 State ..... Location.
Yount Lee Oil Co.'s No. 36 State ..... Location.
Yount Lee Oil Co.'s No. 37 State ..... Location.
Yount Lee Oil Co.'s No. 38 State ..... Location.
Yount Lee Oil Co.'s No. 39 State ..... Location.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 9 Housierre Latrielle ..... Sand showing gas and oil 8,653 ft.; cleaned hole; reaming to bottom.

VINTON—CALCASIEU PARISH

Gulf Ref. Co.'s No. 4 Gardner (workover) ..... Comp. flowing 110 bbls., 10 per cent water, 3,598 ft.
Gulf Ref. Co.'s No. 5 Gardner ..... Comp. flowing 600 bbls. oil 3,304 ft.
Vinton Pet. Co.'s (Lucky Ten) No. 1 Lizzo ..... Total depth 3,326 ft.; pulling screen to deepen.
Vinton Pet. Co.'s No. 10 Matilda Gray (workover) ..... Pulling screen to deepen 3,640 ft.
Wilson-Broach's No. 7 Wilson ..... Rig.

BAYOU BOUILLON—ST. MARTIN PARISH

Humble Oil & Ref. Co.'s No. 1 Woodyard Lake ..... Total depth 6,061 ft.; sidetracking sandy shale 4,775 ft.
Humble Oil & Ref. Co.'s No. 4 State ..... Total depth 4,477 ft.; sidetracking 3,673 ft.

SWEET LAKE—CAMERON PARISH

Magnolia Pet. Co.'s No. 2 Sweet Lake, Sec. 5-13s-7w ..... Location.
Pure Oil Co.'s No. 10 Yount Lee ..... Drlg. gumbo and lime 4,957 ft.

PORT BARRE—ST. LANDRY PARISH

Gulf Ref. Co.'s No. 4-A Hoskins ..... Drlg. shale 937 ft.
The Texas Company's No. 9 Botney Bay ..... Rigging up.

STARKS—CALCASIEU PARISH

Gulf Ref. Co.'s No. 26 Lutcher-Moore ..... Derrick.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

Arkansas Natural Gas Co.'s No. 1 Machemehl ..... Drlg. sandy shale 2,315 ft.
Empire Gas & Fuel Co.'s No. 1 Kuntze, San Felipe ..... Drlg. sand with sulphur odor 5,504 ft.
O'Hara et al's No. 1 Schrader ..... Drlg. sandy shale 3,299 ft.
H. R. Flanningan's No. 2 Dietrich, Raccoon Bend ..... Spudded.

BRAZORIA COUNTY

The Texas Company's No. 1 Ewin, Harvey Little Sur. ... Total depth 7,584 ft.; preparing to sidetrack.
The Texas Company's No. 1 J. H. Murdock, Fresno ..... Shale 7,460 ft.; reaming.
Mills Bennett Prod. Co.'s No. 3 Allen, Allen ..... Drlg. gumbo 528 ft.
Mills Bennett Prod. Co.'s No. 2 Reece, Allen ..... Drlg. sandy shale 2,696 ft.
Mills Bennett Prod. Co.'s No. 2 Random, Allen ..... Drlg. hard sand and lime 2,814 ft.
Faust et al's No. 5 Faust ..... Drlg. sand and shale 5,971 ft.
Freeport Sulphur Co.'s No. 2,001 fee, Bryan Heights .... Drlg. sticky shale 4,306 ft.
Freeport Sulphur Co.'s No. 4 Seaburn ..... Abandoned in anhydrite 990 ft.
Freeport Sulphur Co.'s No. 5 Seaburn ..... Abandoned in anhydrite 944 ft.
Layne et al's No. 7-A Wisdom, Damon Mound ..... Drlg. sandy shale 2,829 ft.
Amerada Pet. Corp's. (Rycade) No. 2 Seaburn, Stratton Ridge ..... Drlg. sandy shale 5,598 ft.
Steel & Strickland's No. 1 Lockbridge ..... Spudded and shut down.
United Oil Syndicate's No. 1 Speer, A. A. Talmadge Sur... No report.

BURLESON COUNTY

Mid-South Oil Co.'s No. 1 Duckworth ..... Shale 2,510 ft.; cem. 6⅝-in. casing 2,420 ft.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... Shut down 5,020 ft.
Shell Pet. Corp.'s No. 2 Herff, Moss Bluff ..... Drlg. shale 6,191 ft.

COLORADO COUNTY

A. H. Eaton et al's No. 1 A. R. Surcek ..... Drlg. gumbo 849 ft.

FORT BEND COUNTY

Long Point Oil Co.'s No. 1 Texas-Gulf fee, H.&T.C. Sur.... Drlg. gumbo 510 ft.

GRIMES COUNTY

Deering & Noble's No. 1 Templeton, 6 miles south of Navasota ..... Preparing to deepen 3,521 ft.

HARDIN COUNTY

D. O. Speight's No. 1 fee, near Batson ..... Shut down 3,010 ft.

HARRIS COUNTY

Cypress Oil & Development Co.'s No. 2 Kitzman ..... Drlg. shale 4,409 ft.
Gulf States Oil Co.'s No. 1 Angsperger ..... Shut down 3,928 ft.
Humble Oil & Ref. Co.'s No. 1 Gehring, Mykawa ..... Drlg. hard sand 3,344 ft.
Humble Oil & Ref. Co.'s No. 4 Minnetex, Mykawa ..... Drlg. sand 5,162 ft.

JACKSON COUNTY

Chicago-Gulf Co.'s No. 8 Drushell, Edna ..... Set 1 joint of screen 3,870 ft.
Chicago-Gulf Co.'s No. 1 Rogers (workover) ..... Rigging up.
Chicago-Gulf Co.'s No. 2 Lee ..... Sand showing gas 4,147 ft.; to set casing.
Warner-Quinlan's No. 1 Hungerford, Henry Smith Sur.... Drlg. gumbo 421 ft.

JEFFERSON COUNTY

Humble Oil & Ref. Co.'s No. 1 McFaddin, T.&N.O. Sur. 234. Drlg. sand 287 ft.
Keith et al's No. 1 Reed-Hankamer ..... Drlg. shale 2,042 ft.
The Texas Company's No. 4 Pipkin, Big Hill ..... Total depth 4,123 ft.; sidetracking in rock 2,958 ft.

LIBERTY COUNTY

Gulf Prod. Co.'s No. 3 McFaddin, Moss Bluff ..... Drlg. gumbo 2,112 ft.
Hamm et al's No. 1 Harvard, Davis Hill ..... Drlg. gumbo 1,017 ft.
Humble Oil & Ref. Co.'s No. 2 Breeding, Moss Bluff.... Derrick.
Humble Oil & Ref. Co.'s No. 7 Sterling, Moss Bluff.... Rig.
J. R. Ingram's No. 1 Hornbeck, Clayton, Harper Sur..... Spudded.
Tucker et al's No. 1 Bell, H.&T.C. Sur. No. 4..... Drlg. gumbo 569 ft.

MATAGORDA COUNTY

H. C. Cockburn's No. 2 Hawkins, Shepherds Mott ..... Total depth 5,244 ft.; drlg. sidetracked hole 2,216 ft.
Empire Gas & Fuel Co.'s No. 1 Boker, Citrus Grove ..... Pulling screen 6,295 ft.

MONTGOMERY COUNTY

Lake Creek Oil Co.'s No. 1 Hunt, south of Conroe..... Shut down 678 ft.; gumbo.
Price & Whitehead's No. 2 Guerges ..... Shut down 2,956 ft.

NACOGDOCHES COUNTY

E. L. Burk et al's No. 1 Latimer, Jose De Los Santos Sur. ..... No report.

ORANGE COUNTY

Gulf Production Co.'s No. 1 Miller Vidor Lbr. Co., E. Lewis Sur. No. 385 ..... Spudded.
Crew Oil Co.'s No. 1 Mansfield ..... Location.

POLK COUNTY

Sunshine Oil Co.'s No. 1 Collins, A. Viescha Sur. ..... Set 92 ft. 4½-in. screen 3,323 ft.; 150 ft. oil in hole; shut down waiting orders.

REFUGIO COUNTY

Blanco Oil Co.'s No. 1 Dorman ..... Shut down 3,120 ft.

SAN JACINTO COUNTY

E. P. Edwards et al's No. 1 Bennettt, northwest of Cold Springs ..... Rig.

VICTORIA COUNTY

Newton et al's No. 1 West ..... Shut down 1,550 ft.

WASHINGTON COUNTY

Penn-Tex Oil Co.'s No. 2 Kamas Brenham, S. M. Williams Sur. ..... Derrick.
Vegus Oil Co.'s No. 1 P. Graves, S. Clampet Sur. ..... Derrick.
Oliver Drlg. Co.'s No. 1-A Hahn, J. H. Alcorn Sur. A-3 ... Gas sand 1,260 ft.; reaming to set casing.

WHARTON COUNTY

Shibe & Gray's (Hearte Oil Co.) No. 1 Brown, El Campo.. Total depth 2,814 ft.; trying to make drill stem test 2,662 ft.

SOUTH LOUISIANA

CALCASIEU PARISH

Crawford Doyle's No. 1 Johnson, Sec. 23-9s-13w..... Shut down 875 ft.
J. O. Davis' No. 1 Industrial, Sec. 29-9s-10w ..... Sticky shale 6,559 ft.; shut down.
Wilfred Lahay's No. 1 Jardell, Sec. 16-10s-12w ..... Drlg. sticky shale 2,685 ft.
Dr. Thomas et al's No. 1 John Hewitt ..... Location.
Vacuum Oil Co.'s No. 1 Walt, Iowa ..... Drlg. shale 4,584 ft.

CAMERON PARISH

Shell Petroleum Corp.'s No. 2 State, Black Bayou ..... Drlg. sticky shale 489 ft.
Shell Petroleum Corp.'s No. 16 Watkins, Black Bayou .. Drlg. blue sticky shale 4,261 ft.
Vacuum Oil Co.'s No. 1 Cameron Meadows, Sec. 21-14s-13w ..... Total depth 5,171 ft.; sidetracked to 3,805 ft.; cem. 4½-in. casing.
The Texas Company's No. 6 State, Calcasieu Lake..... Fishing drill stem 3,677 ft.
The Texas Company's No. 7 State, Calcasieu Lake..... Location.

IBERIA PARISH

The Texas Company's No. 6 Vermillion Bay ..... Rig.
Jefferson Lake Oil Co.'s No. 10 Lake Peigneur, Jefferson Island ..... Total depth 1,700 ft.; cem. 6⅝-in. casing.
Jefferson Lake Oil Co.'s No. 10 Peigneur, Jefferson Island ..... Driving piling.

IBERVILLE PARISH

Gulf Ref. Co.'s No. 1 Gay, Bayou Choctou ..... Total depth 3,301 ft.; cem. 13⅜-in. casing 750 ft.
Shell Pet. Corp.'s No. 5 Wilbert, White Castle ..... Total depth 5,210 ft.; pulled strainer; making slope test.
Standard Oil Co.'s No. 7 Wilbert, Bayou Blue ..... No report.
Standard Oil Co.'s No. 8 Wilbert, Bayou Des Glaise ..... Drlg. hard sand rock 3,906 ft.
Standard Oil Co.'s No. 9 Wilbert, Bayou Des Glaise ..... Driving piling.
Standard Oil Co.'s No. 5 Schwing, Bayou Blue ..... Pulling screen to work over 2,303 ft.
Standard Oil Co.'s No. 1 E. B. and S. P. Schwing, Bayou Blue ..... Drlg. gumbo 5,029 ft.
Standard Oil Co.'s No. 3 Schwing (workover) ..... Temporarily abandoned 2,990 ft.
Standard Oil Co.'s No. 1 Baist Cooperage, Bayou Blue.. Bldg. derrick.

JEFFERSON DAVIS PARISH

H. T. McClain et al's No. 1 Trimble Atterbury, Welsh, Sec. 16-9s-5w ..... Drlg. shale 3,053 ft.

LA FOURCHE PARISH

The Texas Company's No. 2 Leesville ..... Location.

PLAQUEMINE PARISH

Gulf Ref. Co.'s No. 2-B Buras Levee Board ..... Drlg. 910 ft.
Humble Oil & Ref. Co.'s No. 2 Cockrell-Moran, Lake Grand Ecaille ..... Reaming 3,937 ft.
The Texas Company's No. 4 State, Garden Island..... Drlg. shale 4,454 ft.
The Texas Company's No. 5 State, Garden Island..... Location.

ST. JAMES PARISH

Convent Oil Co.'s No. 2 Jacobs, Sec. 28-11s-4e..... Total depth 1,834 ft.; shut down.

ST. MARTIN PARISH

Harrison & Abercrombie's No. 1-A Barras, Sec. 66-11s-6e.. Drlg. gumbo 1,117 ft.
The Texas Company's No. 3 Iberville Land ..... Drlg. sand 668 ft.
The Texas Company's No. 4 St. Martin, Hager ..... Derrick.
The Texas Company's No. 5 St. Martin, Hager ..... Drlg. hard sand 3,393 ft.

ST. TAMMANY PARISH

Washington-St. Tammany's No. 2 Cossack, Sec. 5-6s-10e.. Total depth 1,560 ft.; shut down.

TERREBONNE PARISH

Paggi Brothers' No. 2 Evergreen ..... Total depth 1,800 ft.
United Prod. Corp.'s No. 9 Minor, Houma ..... Shut down 4,014 ft.
The Texas Company's No. 1 L.L.&E., Bay St. Elaine .... Rig.
The Texas Company's No. 4 State, Caillou Island ..... Location.
The Texas Company's No. 6 State, Caillou Island ..... Location.
The Texas Company's No. 5 State, Bay St. Elaine ..... Drlg. cap rock 1,332 ft.
The Texas Company's No. 6 State, Bay St. Elaine ..... Location.
The Texas Company's No. 4 State, Dog Lake ..... Location.
The Texas Company's No. 2 La. L. & E., Bay Junop .... Total depth 6,335 ft.; shut down for repairs.
The Texas Company's No. 3 La. L. & E, Bay Junop .... Location.
The Texas Company's No. 4 La. L. & E., Bay Junop .... Location.
The Texas Company's No. 6 State, Lake Barre ..... Location.
The Texas Company's No. 7 State, Lake Barre ..... Drlg. sticky shale 2,376 ft.
The Texas Company's No. 8 State, Lake Barre ..... Drlg. sand rock 1,909 ft.
The Texas Company's No. 9 State, Lake Barre ..... Driving piling.
The Texas Company's No. 5 State, Lake Pelto ..... Pulling rods and tubing to deepen.

VERMILLION PARISH

Pure Oil Co.'s No. 1 Southwest, Louisiana Land Co., Gueydan ..... Drlg. sticky shale with streaks of sand 1,994 ft.

WEST FELICIA PARISH

Putnam Syndicate's No. 1 Como Plantation, Sec. 51-1e-4w. Total depth 3,738 ft.; shut down.

SOUTHWEST TEXAS PROVEN AREAS

(Continued from Page 84)

Chapman et al's No. 1-F Sides, Simon Miller Sur. ..... T. D. 1,350 ft.; drlg.
Chapman's No. 2-F Sides ..... Location.
Chapman et al's No. 1-G Sides, P. Prator Sur. ..... T. D. 1,880 ft.; drlg.
Collins et al's No. 6 Lawrence ..... Location.
J. L. Collins & Co.'s No. 7 M. V. Lawrence, 150 ft. from E line, 215 ft. from S line of 27-ac. tract in the S. Miller Sur. ..... Setting csg.; shut down for water
Ertell et al's No. 6 J. C. Abbott ..... T. D. 2,620 ft.; swabbing.
E. E. Ertell's No. 7 J. C. Abbott ..... T. D. 100 ft.; standing.
E. L. Chapman et al's No. 2-A Sides ..... Rigging up.
J. L. Collins & Co.'s No. 5 M. V. Lawrence, 150 ft. from W line, 515 ft. from S line of 27-ac. tract, S. Miller Sur. ..... T. D. 1,402 ft.; standing.
Sequoia Oil Co.'s No. 7 T. P. Simmons ..... Location.
G. Stratton's No. 5 J. C. Abbott, 450 ft. from E line, 150 ft. from S line of 32-ac. tract, S. Miller Sur. .... T. D. 1,730 ft.; set csg.

PETTUS AREA—BEE COUNTY

Batex Petroleum Co.'s No. 3 Burnett, 360 ft. from N line, 600 ft. from E line of 320-ac. tract, Kerr Sur. ..... Location.
J. L. Mauldin's No. 1 fee, 1,300 ft. N of S line, 150 ft. E of Medio Creek, Kerr Sur. ..... T. D. 3,734 ft.; shut down for fuel.
Houston Oil Co.'s No. 1, Blk. 23 ..... T. D. 3,911 ft.; to be deepened.
Houston Oil Co.'s No. 1, Blk. 33 ..... T. D. 3,914 ft.; to be deepened.
Union Producing Co.'s No. 13 Ray, George Habbermacher Sur. ..... T. D. 3,683 ft.; waiting for storage.
Union Producing Co.'s No. 26 Ray, 3,500 ft. from S line, 2,000 ft. from E line, P. Miller Sur. ..... T. D. 3,951 ft.; set csg.

AGUA DULCE FIELD—NUECES COUNTY

South Texas Production Co.'s No. 3 Walter, 800 ft. from S line, 460 ft. from E line of Walters tract in Sec. 34 ..... T. D. 1,984 ft.; standing.
Houston Oil Co.'s No. 1 Comstock, Sec. 36, Benton Pasture Sur. ..... T. D. 4,913 ft.; shut in for pipe line.

SAXET FIELD—NUECES COUNTY

O. C. Best et al's No. 1 Boory ..... Derrick.
Houston Oil Co.'s No. 1 Joe Hunter, Sec. 591 ..... T. D. 4,079 ft.; waiting on cement.
Houston Oil Co.'s (Andy Bowen) No. 1 Prieur, H. B. Sheppard Sur. ..... T. D. 765 ft.; drlg.
Kepley Prod. Co.'s No. 1 Donnigan, 200 ft. N line, 200 ft. E line of lease ..... T. D. 2,425 ft.; comp. for 20,000,000 ft. gas.
Moody-Seagraves Producing Co.'s No. 1 Smith, 450 ft. from N and E line of 120-ac. tract, J. Dunn Sur. .... T. D. 4,100 ft.; setting liner.
W. L. Pearson Properties' No. 4 Dunn, 300 ft. S of Bay ..... Reinstated; T. D. 3,600 ft.; set 4½-in. csg.
Pearson Properties, Inc.'s No. 1 State National Bank .... T. D. 5,515 ft.; will plug back to 2,480 ft.

LAREDO DISTRICT

SCHOOLFIELD—O'BYRNE POOL—DUVAL COUNTY

Frasher et al's No. 2 Duval Land Co., G.B.&C.N.G. Sur. No. 135 ..... Location.
Magnolia Petroleum Co.'s No. 1 Wilson, 330 ft. N line, 330 ft. E line, Sur. 136 ..... T. D. 2,250 ft.; waiting on cement.

RANDADO POOL—JIM HOGG COUNTY

J. W. Pippin's No. 1 Hinnant, 150 ft. each way from SW cor., Blk. 11, Sur. 147 ..... Derrick.

KOHLER POOL—DUVAL COUNTY

Humble Oil & Refining Co.'s No. 50 Kohler, 2,805 ft. from S line, 165 ft. from W line of Sur. 164 .....T. D. 2,650 ft.; drlg.

COLE POOL—DUVAL COUNTY

Southern Oil Co.'s No. 2 King-Harper, 1,794 ft. E line, 729 ft. N line of Sur. 333 .....Location.

MID-OJUELOS—WEBB COUNTY

O. W. Killam's No. 4 Garcia, 950 ft. E line, 300 ft. N line, Blk. 11, Sur. 608 .....T. D. 2,100 ft.; abnd.

REISEE POOL—WEBB COUNTY

O. W. Killam's No. 1 Johnson, Sur. 1,617 .....Location.

COLE POOL—WEBB COUNTY

O. W. Killam's No. 1 Cuellar, Share 4, Cuellar grant ....T. D. 2,030 ft.; drlg.
Magnolia Petroleum Co.'s No. 1 Peal, Share 3, Cuellar grant .....T. D. 1,840 ft.; drlg.

CAROLINA-TEXAS POOL—WEBB COUNTY

George S. Marshall's No. 1 C. W. Webster, 810 ft. from S line, 150 ft. from W line, Sur. 684 .....T. D. 3,300 ft.; sand; will test.

CHARCO REDONDO POOL—ZAPATA COUNTY

Midwest Public Utilities' No. 1 Garza, 450 ft. SW line, 450 ft. SE line, Blk. 33, Pedernal grant .....T. D. 1,600 ft.; drlg.

JENNINGS-MUCKELROY POOL—ZAPATA COUNTY

Allied Oil & Gas Co.'s No. 12 Guiterrez, 750 ft. from NE line, 3,663 ft. from SE line, Share 4, Fansler Partition, Comitas grant .....T. D. 100 ft.; standing.
Allied Oil & Gas Co.'s No. 1 Pedro de los Santos, 1,750 ft. SE line, 450 ft. SW line, Share 6, Fansler Partition, Comitas grant .....T. D. 1,373 ft.; comp. for 30,000,000 ft. gas.
Claypool and Nixon's No. 1 Garza, Blk. 11, Subdivision Zorro Ranch, Comitas grant .....T. D. 100 ft.; drlg.
Nordan and Morris and Grimm and Yakey's No. 1 S. Pustamente, 990 ft. from NE line, 150 ft. from NW line, Share 34, Fansler Partition, Comitas grant..Derrick.
J. I. Newton's No. 1 Trevino, Blk. 7, Sur. 66 .....Rigging up.
S. T. Phelps' (Blankenship) No. 2 Garza, 425 ft. W line, 425 ft. E line, Blk. 2, Sur. 413 .....T. D. 1,623 ft.; resumed drlg.
Shankle-Newton's No. 8 Guiterrez, 4,525 ft. SE line, 150 ft. SW line, Share 4, Comitas grant .....Location.
W. R. Shankle's No. 7 Guiterrez, 2,100 ft. from NE line, 2,898 ft. from NW line, Share 4, Fansler Partition, Comitas grant .....Location.
S. R. C. Oil Co.'s No. 1 Cuellar, 150 ft. S and W lines, Blk. 16, Sur. 62 .....Location.
S. R. C. Oil Co.'s No. 2 F. Cuellar, 300 ft. from S line, 300 ft. from E line, Blk. 8, Sur. 19 .....Location.
S. R. C. Oil Co.'s No. 11 Trevino, Sur. 19 .....Rigging up.
Whicker, Arnold & Ahler's No. 3 Garza, 150 ft. from SW line, 450 ft. from SE line, Blk. 1, Zerro Ranch Subd., Comitas grant .....Location abnd.
J. H. Winch's No. 3 A. Bustamente, 750 ft. NW line, 150 ft. NE line, Blk. 7, Share 5, Fansler Partition, Comitas grant .....T. D. 1,325 ft.; drlg.

JENNINGS-CUELLAR POOL—ZAPATA COUNTY

O. W. Killam's No. 37-C Cuellar, 150 ft. N line, 1,775 ft. SW line of Sur. 278 .....T. D. 1,595 ft.; comp. for 75 bbls.
O. W. Killam's No. 38-B Cuellar, Sur. 277 .....T. D. 860 ft.; drlg.
O. W. Killam's No. 39-C Cuellar, Sur. 278 .....Rigging up.
O. W. Killam's No. 36-B Cuellar, 150 ft. S line, 1,630 ft. SW line of Sur. 277 .....T. D. 1,595 ft.; comp. for 75 bbls.

MIRANDO VALLEY POOL—ZAPATA COUNTY

O. W. Killam's No. 1 Killam, 875 ft. NE line, 2,080 ft. SE line of Sur. No. 16 .....T. D. 2,108 ft.; abnd.
O. W. Killam's No. 2 Killam, Sur. 182 .....Location.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 84)

Cosden Oil Co.'s No. 1 Stoltzfus, 2,310 ft. S and E lines of Sec. 14, Rangley Subd. of C. Miller ranch, Uranga Sur. .....T. D. 4,500 ft.; shut down.
Humble and Hurlbut et al's No. 1 J. C. Wood, 150 ft. from NW line, 1,144 ft. from SW line of P. T. Irrigation Co. .....T. D. 5,077 ft.; standing.
The Texas Company's No. 1 McCampbell, 150 ft. from N and E lines of 161-ac. tract, R. Pena Sur. .....Location.
Simms Oil Co.'s No. 2 Holzmark, 660 ft. N and 20° E of No. 1, T. York Sur. .....T. D. 4,458 ft.; preparing to set csg.
Rowan and Hope's No. 1 Goree, 600 ft. S, 300 ft. W Lot 4, T. B. Barton Sur. .....Derrick.

BEXAR COUNTY

Eckert & Son's No. 3 J. J. Brehm, 545 ft. from N line, 150 ft. from W line of lease, Sur. No. 58 .....Location.
Gatlin Oil Co.'s No. 3 I. A. Beck, 150 ft. from SE line, 2,551 ft. from SW line of lease, J. Montez Sur. .....Location.
Kay and Uhl's No. 1 Rhode, C. Texada Sur. No. 133 .....T. D. 600 ft.; waiting on cement.
Long and Craig's No. 1 Sandemer .....Location.
McElroy-Hail and Croach's No. 1 Sweeney, 450 ft. NW line, 700 ft. W line of tract, F. R. Hernandez Sur.....Waiting on cement.
J. M. Russell's No. 1 F. L. Price, 1,500 ft. to N line, 660 ft. W of tract in Angel Navarro Sur. .....T. D. 932 ft.; show oil.
Snyder, Reeves et al's No. 2 Glasscock, 12 miles NE of San Antonio .....T. D. 802 ft.; shut down.
Weibacher et al's No. 1 Ernst, 6,400 ft. S line, 900 ft. W line of J. Christopher Sur. .....T. D. 720 ft.; shut down.
Somerset Syndicate's No. 1 Lagrange, 54 varas from S and W lines of Carrico tract, Sur. No. 48 .....T. D. 375 ft.; shut down.
J. E. Weatherall and Ben C. Hillman's No. 1 Talley ....Location.
Russell & Moore's No. 2 Mills, 20 ft. S of No. 1, Angel Navarro Sur. .....T. D. 1,136 ft.; shut down; repairing rig.
Ueckert et al's No. 1 Palfrey, 1,000 ft. S and W lines of farm .....T. D. 1,010 ft.; drlg.
S. M. Terrell et al's No. 1 A. Beadom, 1,100 ft. from E line, 12,000 ft. from N line of John Barber Sur....Location.
F. W. Tong's No. 1 Willie Sandemer, 150 ft. from NE and SE lines of the N 20 acres of Willie Sandemer 400-ac. tract, Juan Montez Sur. .....T. D. 1,170 ft.; shut down.
Bowman and Waldrop's No. 1 Ridder, 1,000 ft. from S and W lines of 688-ac. tract, J. M. Sur. .....T. D. 2,000 ft.; plugged back to 600 ft.; will put on pump.

CALDWELL COUNTY

Callihan et al's No. 3 W. H. Callihan, 70 ft. N, 65° E of No. 2 .....T. D. 2,525 ft.; shut down.
Cargil et al's No. 1 Thomas, 1,505 ft. from E line, 150 ft. from NE cor. of A. W. Jordan tract, J. Alberts Sur. .....T. D. 1,703 ft.; shut down.
Blount and Mills' No. 1 McMahan, 275 ft. from SW line, 75 ft. from SE line of 50-ac. tract, J. Pinchback Sur. .....T. D. 2,178 ft.; preparing to shoot.

COLORADO COUNTY

Lewis Siegel Drilling Co.'s No. 1 Henderson, 990 ft. from W line, 2,310 ft. from S line, Sec. 1, Blk. 57, T.&P. Sur. .....Location.
A. H. Eaton et al's No. 1 Sarcek, B. Schneider Sur. ....T. D. 709 ft.; drlg.

COMAL COUNTY

Caldwell & Lanier's No. 1 T. J. Byler, 175 varas from W line, 270 varas from N line of 320-ac. tract in the H.E.&W.T. No. 5,994 Sur. .....T. D. 600 ft.; standing.

DEWITT COUNTY

Penn Oil Co.'s No. 1 Junker, C N half 20-ac. tract, Pettus Sur. .....T. D. 5,490 ft.; shut down.
H. T. Roe's No. 1 Leinhardt .....T. D. 2,170 ft.; shut down.
Sheldon Petroleum Co.'s No. 1 Goehring, center of Goehring tract, H. Stubblefield Sur. .....Location.

DUVAL COUNTY

Al Buchanan et al's No. 1 Wood-Welder, 1,500 ft. from W line, 500 ft. from N line of Sec. 215 .....T. D. 1,530 ft.; standing.
Gulf Prod. Co.'s No. 1 Shaeffer, J. Martinez Sur. .....T. D. 625 ft.; waiting on cement.
Vacuum Oil Co.'s No. 1 Duval County Land Co., Sur. 280 .....T. D. 2,405 ft.; drlg.

EDWARDS COUNTY

Phillips Pet. Corp.'s No. 2 A. G. Holman, 320 ft. from N and E lines of SE of tract, C.C.S.D.&N.G.R.G. Sur. No. 25 .....T. D. 6,950 ft.; drlg.
James Dalgish's No. 2 Peterson, 850 ft. N line, 1,100 ft. W line of Sec. 82, Blk. E in the H.E.&W.T. Sur...Location.

FALLS COUNTY

Marlin Oil Co.'s No. 1 Hodges .....T. D. 2,340 ft.; shut down.

FAYETTE COUNTY

Elam & Reynolds' No. 1 Florence, M. Muldoon Sur. No. 13 .....T. D. 310 ft.; drlg.
Kelly et al's No. 1 Burke .....T. D. 834 ft.; shut down.

FRIO COUNTY

A. H. Wray's No. 1 Burns estate, 700 ft. N, 330 ft. E of C Sec. 123, Antone Hupzor .....T. D. 3,708 ft.; show oil; will test.

GOLIAD COUNTY

A. G. Riemenschneider's No. 1 A. T. Fromme, 275 ft. from N line, 912 ft. W line of 300-ac. tract, P. Dexeter Sur. .....T. D. 2,330 ft.; shut down.
Gibson Oil Co.'s No. 1 Cyrus Parks, 3,000 ft. S and 2,500 ft. E of NW cor. of Parks ranch, Ferguson Sur. .....T. D. 5,104 ft.; standing.
T. B. Slick's No. 1 Poetter, 1,500 ft. from SW line, 900 ft. from SE line of 591-ac. tract, Obid Marhsall Sur. .....T. D. 4,213 ft.; shut in for storage.
Union Producing Co.'s No. 28 Ray, 150 ft. S and 800 ft. from W lines of 416-ac. tract .....T. D. 435 ft.; set surface csg.

GONZALES COUNTY

Andibus & Cummings' No. 1 R. D. and J. C. Miller, 523 ft. from S line, 1,000 ft. from E line, Ann Williams Sur. .....T. D. 2,550 ft.; shut down.
Acme Oil & Royalty Corp.'s No. 1 H. K. Weber, 2,625 ft. from NW line, 2,250 ft. from SW line, Wright Sur. .....T. D. 2,560 ft.; shut down.
West Oil Co.'s No. 1 Martin, 360 ft. SE line and SW line of tract, Thomas Moore Sur. .....T. D. 1,780 ft.; shut down.
United North & South's No. 2 Wells, 1,250 ft. SW of No. 1 .....T. D. 3,885 ft.; drlg.

GUADALUPE COUNTY

Ray Oil Co.'s No. 1 R. Felsing, 300 ft. NW line, 450 ft. NE line 120-ac. tract in the M. Baker Sur. .....T. D. 900 ft.; shut down.
O. K. Emerson's No. 1 C. A. Phillips, center of 80-ac. tract, Velda Sur. .....Rigging up.
Jones and Erwin's No. 1 O. Forrester, 2,700 ft. from NE cor., 450 ft. from NW line, O. Forrester tract, Pate Sur. .....T. D. 707 ft.; shut down.
Jones and Erwin's No. 1 Hoese, 150 ft. each way out of NE cor. of 200-ac. tract, J. Leal Sur. .....T. D. 691 ft.; shut down in Edwards.

HAYS COUNTY

Halley & Whittington's No. 1 Heidenrich, 4,900 ft. from NW line, 400 ft. from NE line of farm, Hemphill Sur. .....T. D. 2,288 ft.; coring.
San Marcos Oil & Gas Co.'s No. 1 A. H. Alford .....T. D. 513 ft.; waiting on cement.

JIM HOGG COUNTY

Cole Petroleum Co.'s No. 1 Allen, 150 ft. from W line, 336 ft. from N line, Blk. 7, Sur. No. 23 .....T. D. 3,170 ft.; sand; bailed dry.
J. D. Pulliam's No. 1 Jones, 1,020 ft. W line, 1,020 ft. S line, Share 5-A Hinojosa Sur. .....T. D. 2,808 ft.; drlg.
P. H. Wilson's No. 1 Edds, Sur. 210 .....T. D. 1,300 ft.; shut down.

JIM WELLS COUNTY

Prairie Lea Prod. Co.'s No. 1 Oppenheimer .....T. D. 520 ft.; drlg.

KARNES COUNTY

J. F. Morrissey et al's No. 1 Rigsdale, 660 ft. SW of C of NE line of 170-ac. farm in the McCoull Sur. .....T. D. 2,000 ft.; standing.
J. F. Morrison's No. 1 Cochran, 150 ft. from S line, 500 ft. from E line of tract, D. B. McConnel Sur. .....T. D. 1,010 ft.; drlg.
Hurlbut et al's No. 1 Newberry, 450 ft. SE and SW line of Newberry 428-ac. tract, Carlos Martinez Sur. .....T. D. 2,975 ft.; show gas.

KENDALL COUNTY

Borgett et al's No. 1 Haag, W. Avery Sur. .....T. D. 1,010 ft.; drlg.
Sitton et al's No. 1 Garvin, C of NE of D. L. Richardson Sur., in the D. L. Richardson Sur., 1 mile NE from Kendalia .....T. D. 1,130 ft.; drlg.
Dixon Oil Co.'s No. 1 Ottmer Behr, W of H.T.&B.R.R. Sur., 3½ miles SE from Sisterdale .....T. D. 2,410 ft.; drlg. lime.
P. B. Sterling's No. 1 R. J. McCrocklin, 1,350 ft. from N line, 250 ft. from W line of the B. G. Owens Sur., 4 miles W from Kendalia .....T. D. 1,600 ft.; shut down.
R. M. Perkins' No. 1 J. Lawhorn, Sec. 10, 2,475 ft. E line, 1,488 ft. S line .....T. D. 706 ft.; drlg.
Permian Oil Co.'s No. 1 Taylor, Sec. 18, G.B.&C.G. Sur.....Location.

KERR COUNTY

Evans et al's No. 1 Love Ranch, 100 ft. from S line Sur. 1,597, 1,000 ft. E of W line of J. Martinez No. 1,594 Sur. .....T. D. 3,374 ft.; pumped 50 bbls. oil, 200 bbls. water.
Evans and Gant's No. 1 Seiker-Mears, C.C.S.D.&R.G. N.G. Sur. No. 1,605 .....Location.
Evans and Gant's No. 1 E. Young, A. E. Burge Sur. No. 28 .....Location.

KINNEY COUNTY

Magnolia Pet. Co.'s No. 1 Whitehead-Wardlaw, 2,640 ft. W line and S line of Melton Valdez grant .....T. D. 4,905 ft.; drlg.
Mardon Oil Co.'s No. 2 Jim Clamp .....T. D. 1,389 ft.; standing.

KIMBLE COUNTY

C. L. Bryant et al's No. 1 Lambert, 7,700 ft. N and W lines of F. Lotta Sur. .....T. D. 850 ft.; standing.
Kamon et al's No. 1 Hodges .....T. D. 1,600 ft.; drlg.

LASALLE COUNTY

Fred W. Valz' No. 1 Coleman, 200 ft. from S and E lines of SW Sec. 514, B.S.&F. Sur. .....T. D. 40 ft.; standing.

LAVACA COUNTY

Cranfill & Reynolds' No. 1 Hermes, William Ryan Sur. Moving in rig.
Newton Oil Co.'s No. 1 Reeves, cor. of S line of Reeves tract, John Hueser Sur. .....T. D. 3,340 ft.; shut down.

LIVE OAK COUNTY

Jacob, Buzzini & Pickett, Inc.'s No. 1 C. E. Kay in the Bridget Fadden Sur., 3 miles E from George West..T. D. 2,785 ft.; coring.
Houston Oil Co.'s No. 3 Dunning, 330 ft. from NE line and 2,800 ft. from SE line of tract, M. B. Kilvin Sur...Moving in derrick.
Houston Oil Co.'s No. 1 D. W. Snyder, 630 ft. from S line, 150 ft. from E line of Snyder tract, T. E. Garner Sur. .....T. D. 5,386 ft.; coring.
Illinois Exploration Synd.'s No. 1 Reeves-Brown, 1,300 ft. S of Sellars tract, 1,800 ft. E of Ry. .....T. D. 2,145 ft.; shut down.
Sid Keoughan's No. 1 C. E. Terrell, 6,000 ft. from N line, 1,000 ft. from E line, Dan O'Boyle Sur. .....T. D. 2,840 ft.; shut down.
Tul-Tex Oil Co.'s No. 1 L. Jacobs, 4 miles from N of Callihan Field .....T. D. 4,520 ft.; shut down.

LEE COUNTY

Burt et al's (M. D. Rickett) No. 1 R. C. Sanders .....T. D. 3,124 ft.; shut down.
Marts et al's No. 1 Thomas .....T. D. 2,385 ft.; drlg.
A. H. Wheeler and associates' No. 1 fee, Blk. 47, H. Donohue Sur. .....T. D. 2,200 ft.; shut down.

McLENNAN COUNTY

C. E. Groone et al's No. 1 League .....T. D. 932 ft.; shut down.
W. L. Murrel et al's No. 1 Hixon .....T. D. 775 ft.; shut down.

McMULLEN COUNTY

Mogul Pet. Co.'s No. 1 Martin, 150 ft. NW line, 150 ft. to SW line of E. Melon No. 212 Sur. .....T. D. 632 ft.; standing.

Sheree, Brodie and Emick's No. 1 Shiner, Henry Brewer Sur. ....T. D. 500 ft.; drlg.; show gas 274-79 ft.

MAVERICK COUNTY

Rycade Oil Corp.'s No. 6 Chittim, 1,445 ft. from S, 320 ft. from W of Sec. 7, I.&G.N. Sur. ....T. D. 3,735 ft.; drlg.; will set csg. and test.

Rycade Oil Corp.'s No. 5 Sullivan, in C of Sec. 32, Blk. 7, in the I.&G.N. Sur. ....T. D. 7,405 ft.; drlg.

Texas Gas Utilities Co.'s No. 7 Chittim, 5.70° E, 1,845 ft. from No. 3, I.&G.N. Sur. ....T. D. 2,450 ft.; drlg.

MEDINA COUNTY

National Oil Co.'s No. 1 Howard, 1,750 ft. E of W line, 1,854 ft. N of S line of survey in the John George Sur. No. 9, 10 miles S of Dunlay ....T. D. 2,383 ft.; drlg.

Donaldson Oil & Gas Co.'s No. 2 Adams ....Derrick.

C. H. Florian et al's No. 1 Henry Meyer ....T. D. 200 ft.; drlg.

Caldwell et al's No. 1 L. W. Burrell ....T. D. 518 ft.; standing.

M. Eskridge et al's No. 1 Medina Valley Irrigation ....T. D. 250 ft.; drlg.

Pat Armstrong's No. 1 Crawford, 1,389 ft. N line, 2,550 ft. E line of survey, 487.6 miles W of Devine ....T. D. 2,789 ft.; shut down.

United North & South's No. 2 Little ....T. D. 1,767 ft.; standing.

MILAM COUNTY

Rheubotham & Tate's No. 1 Johnson, 325 ft. from N line, 250 ft. from W line of 40-ac. tract, D. Robinson Sur. ....T. D. 1,475 ft.; shut down.

Kyser, Roberts & Dibble's No. 2 Ward ....T. D. 2,710 ft.; drlg.

Lloyd Oil Corp. and H. W. Elliott's No. 1 Davis ....T. D. 1,300 ft.; standing.

J. E. McKee et al's No. 1 Littleton, 150 ft. from N and 225 ft. from W lines of lease, C. Chevallier Sur. ....T. D. 100 ft.; shut down.

G. I. Moore's No. 1 Davis ....T. D. 2,147 ft.; shut down.

Peggie Bros.' No. 1 M. Reed ....T. D. 650 ft.; shut down.

Service Oil & Gas Co.'s No. 1 H. G. Henslee, 500 ft. from NW line, 400 ft. from NE line of 50-ac. tract, Valdez Sur. ....T. D. 2,180 ft.; standing.

NUECES COUNTY

Grimm et al's No. 1 William Baur ....T. D. 2,435 ft.; drlg.

Calallen Oil & Gas Co.'s No. 2 Allen, 800 ft. from E line, 1,100 ft. from S line, Blk. 76, Garias Sur. ....T. D. 1,975 ft.; shut down.

H. H. Weinert's No. 1 Mohle, 450 ft. from S line, 450 ft. from W line, Sec. 94, Bishop Subd., Palo Alto lands ....T. D. 452 ft.; set casing.

REAL COUNTY

Evans & Sprinkle's No. 1 J. M. Auld, H.E.&W.T. Sur. No. 15 ....Spudded.

McGinley Corp.'s No. 1 Haby, C of SW Sec. 175 ....T. D. 400 ft.; setting 15½-in. csg.

Gant-Kilgore and Evans' No. 1 A. D. Auld, C.C.S.D.& R.G.N.G. Sur. No. 23 ....Location.

STARR COUNTY

Los Olmos Oil Co.'s No. 2 Kelsey-Bass, Blk. 6, Porcion 77 ....T. D. 269 ft.; standing.

Kush and Duerkson's No. 1 Kelsey-Bass, Blk. 9, Porcion 75, Carmargo Sur. ....Drlg. 700 ft.

Menyard et al's No. 1 Sealbury, 150 ft. from E line, 6,550 ft. from N line, Share 5, Porcion 75, Jurisdiction of Carmargo ....T. D. 349 ft.; set 8-in. csg.

SAN PATRICIO COUNTY

George B. Pickett's No. 1 Baldwin, 900 varas due E of Denton, 1,200 ft. S of the SE cor. of O'Neill Sur., Abstract 211 ....T. D. 4,020 ft.; shut down.

Cosden Oil Co.'s No. 1 Ramsey, 3,000 ft. from N line, 4,500 ft. from E line, Portillo Sur. ....T. D. 3,600 ft.; drlg.

Union Prod. Co.'s No. 4 Welder, 3,000 ft. N line, 4,500 ft. E line of tract in the E. Portillo Sur. ....T. D. 5,893 ft.; standing.

Cosden Oil Co.'s No. 1 Powell, 330 ft. E line of 36-ac. tract in Sec. 32, Paul Subd., Coleman-Fulton Pasture Lands ....T. D. 4,532 ft.; standing.

Saxet Oil Co.'s No. 1 Carrol, 8 miles N of Gregory ....Derrick.

TRAVIS COUNTY

Fort Bend Oil Co.'s No. 1 Engleman, 450 ft. N line, 150 ft. W line of 108-ac. tract, J. H. Denson Sur. ....T. D. 385 ft.; shut down.

E. R. Marts' No. 1 Voelker, 150 ft. N line, 150 ft. W line of tract, L. Kimbro Sur. ....T. D. 1,136 ft.; drlg.

Allen et al's No. 1 Sophie Smith ....T. D. 701 ft.; show oil.

UVALDE COUNTY

Phantom Oil Co.'s No. 1 Claudt, Sec. 611 ....T. D. 2,710 ft.; shut down.

Waldrop & Welch's No. 1 E. R. Edmonds, 1,750 ft. NW, 7,200 ft. W of Sec. 71, in the A. Gomez Sur., 8 miles S of Uvalde ....T. D. 1,610 ft.; running csg.

VICTORIA COUNTY

Newton et al's No. 1 West ....T. D. 1,550 ft.; standing.

WEBB COUNTY

Usher Carson et al's No. 3 Benavides, 150 ft. from S and W lines of Blk. 7, Sur. 1,613 ....T. D. 500 ft.; drlg.

O. W. Killam's No. 1 Bruni, 2,490 ft. from E line, 1,170 ft. from S line of Sur. No. 77 ....T. D. 2,739 ft.; drlg.

WILSON COUNTY

Rycade Oil Corp. and Getty Petroleum Co.'s No. 1 J. A. Johnson, 150 ft. from N line, 600 ft. E of railroad tract, Jose de Balmaseda Sur. ....T. D. 2,719 ft.; drlg.

Stover and Wren's No. 1 John Reuss, 10,400 ft. from SW line, 2,300 ft. from NW line, O. A. Trevino Sur. No. 19 ....T. D. 746 ft.; shut down.

ZAPATA COUNTY

T. H. Ward's No. 1 Uribe, 150 ft. NW line, 150 ft. SW line, Blk. 8 Subd., Share 7, Partition No. 6, T. Uribe Partition of Jose V. Borrego Sur. ....Rigging up.

John Poppas Pool, Inc.'s No. 1 Flores, 2,977 ft. SE line, 6,000 ft. Rio Grande River, Porcion 35 ....Rigged up.

B. F. Nixon's No. 1 A. Guiterrez, 170 ft. S line, 322 ft. E line, Lot 5, Blk. 3, Partition 10, Borrego grant....T. D. 50 ft.: standing.

O. W. Killam's No. 2 Slator, Borrego grant ....T. D. 2,135 ft.; abnd.

O. W. Killam's No. 3 Slator, Borrego grant ....Location.

John J. O'Hern's No. 2 Benavides, Villa grant ....Location.

Penny Prod. Co.'s No. 1 Juan V. Cuellar, Jr., et al, 175 ft. NE line, 175 ft. SE line Poppas Subd., Porcion 33 and 34, Blk. 1, Sur. 2 ....T. D. 1,920 ft.; drlg.

William Marks' No. 1 Flores, Blk. 36, Porcion 37 ....T. D. 1,310 ft.; drlg.

National Oil Co. of Delaware's No. 1 Luther, 617 ft. NW line, 96 ft. NE line, Blk. 97, Da Prom Subd., Porcion 6 ....T. D. 380 ft.; standing.

National Oil Co.'s No. 2 Adams, 150 ft. from NW line and SW line, Blk. 11, Borrego grant ....Location.

Mackenzie and Talmadge's No. 1 Trevino, 400 ft. SE line, 200 ft. NE line, Blk. 6, Sur. No. 4, Porcion 2 and 3 ....T. D. 330 ft.; drlg.

F. M. Blair & Son's No. 1 Guiterrez, 150 ft. from NW line, 660 ft. from SW line, Blk. 2, Blair Subd., Comitas grant ....T. D. 1,750 ft.; abnd.

Lincoln Oil & Gas Co.'s No. 1 Guiterrez, Blk. 23, Subd., La Huerta grant ....T. D. 1,430 ft.; drlg.

ZAVALA COUNTY

Carl Cromwell's No. 1 Whitecotton, C of NW Sec. 1, A.P.&M. Sur. ....Location.

F. W. Weigand's No. 1 Gates, 1,320 ft. from N line, 220 ft. from NE cor., Sur. No. 13 ....T. D. 3,215 ft.; shut down.

REFINERY DISTRIBUTOR

National Supply Company, with main offices at Toledo, Ohio, has recently completed arrangements with the Petroleum Engineering, Inc., of Tulsa, Oklahoma, to be its distributor and representative in the sale of gasoline plants, refinery units and fractionating equipment for special refinery products, and is prepared to erect Petroleum Engineering, Inc., plants on a turn-key basis.

MICHIGAN FIELDS

(Continued from Page 88)

three other gassers in Grant and Hatton Townships.

Drilling interest this week will be focused on Broomfield Township where the Pure Oil Co.'s No. 2 Willie and others, C SW NE, Section 4-14n-6w, is nearing possible gas production in the Marshall.

The Geneva Oil Corp.'s No. 1 Nicholson, SW SW, Section 7-14n-5w, Deerfield Township, Isabella County, near the Broomfield gas area, has been drilled through the gas to a depth of 1,700 feet and will be continued into the Dundee as an oil test. No other wells in this immediate vicinity have been drilled into the oil sands.

Western Michigan

In western Michigan the Muskegon Deep Well Syndicate's No. 5 Herman Heinz, the first deep test in the proved Muskegon Field, struck bottom salt water in the Trenton limestone at 4,575 feet and was shut down for rig repairs. The hole filled up about 1,000 feet with water in two days. An attempt to drill ahead carrying the water will be made when drilling is resumed next week.

The Johnson Oil Refining Co.'s No. 1 Frank Forrester well, NW NE NW, Section 32-1n-15w, Trowbridge Township, Allegan County, has been plugged and abandoned at about 1,350 feet. A fair show of oil was struck in the Traverse at slightly below 1,300 feet but the drill went into bottom salt water almost immediately. The well was tested but failed to make commercial production with the great amount of water. The Johnson company is planning to deepen one of its two previous structure tests in Trowbridge Township before abandoning a block of acreage held there.

Muskegon Field

Two former producing oil wells in the proved Muskegon oil field are being plugged and abandoned. One is the Victor Oil & Gas Co.'s No. 1 Otto Bensinger, NE SE, Section 5-10n-16w, Muskegon Township, which was brought in November 1, 1928, with an initial production of 10,000,000 feet of gas. The well later produced as high as 1,200 bbls. of oil daily but as an edge well was drowned out by water. The other was the McAfee-Refior Oil Co.'s No. 1 Clifford Anderson, NE NW, Section 9-10n-16w, Muskegon Township, also an edge well which came in October 29, 1928, making 500 bbls. of oil and about 6,000,000 feet of gas daily.

One permit for a new location was issued: Henry Miltner, trustee's No. 1 G. Devere Miller, Edward Browarsky and Aimee Gottschalk, NW NE NE, Section 24-24n-7w, Pioneer Township, Missaukee County. Drilling has been started.

OKLAHOMA FIELDS

(Continued from Page 73)

SE cor. NW, Section 4-20-1w, was drilling at 1,000 feet.

The wildcat test of Barnsdall Oil Co. in Noble County is drilling on iron in an attempt to straighten the hole. The test, No. 1 Miksch, NW cor. SW, Section 12-21-1, has reached a total depth of 4,677 feet, and the Wilcox sand is expected to be found approximately 4,850-4,900 feet.

Garnoble Oil & Gas Co.'s No. 1 Reed, SE cor., Section 20-24-1w, in the north Billings area, was drilling at 2,450 feet and believed to be running high on the structure.

New Pool in Marshall?

A new shallow producing area in the southern part of Marshall County, near the Red River, appears probable. McCrory & McCrory's No. 1 Adams, NE cor. SW SE Section 31-7s-6, has 500 feet of oil in the hole from a sand found at 523-26 feet. Operators are landing casing to shut off the water found above and expect to drill deeper into the sand in a few days. Same operators are planning to drill another test about a quarter of a mile southwest of the test, in the NE cor. Section 6-8s-6, Marshall County. It is expected several more tests will be started in the vicinity if the well makes a commercial producer.

In the Tatums Field in Carter County two new producers were being completed by the Magnolia Petroleum Co. and one new location was announced during the week. The Trevlyn Oil Co.'s No. 4 Mitchell, SW cor. SE Section 24-1s-3w, is a new location. It is located south of the same company's No. 2 Mitchell and The Texas Company's No. 4 Eaves, both producers, and it is a diagonal northeast offset to a dry hole recently completed by Westheimer and others, which was abandoned at 2,801 feet.

Magnolia Petroleum Co.'s No. 3 Dickerson, NW cor. NE SE Section 24-1s-3w, was being swabbed after landing a liner. It is located 100 feet north of a dry hole, No. 1 Dickerson, which was abandoned at a total depth of 4,240 feet. The showing of oil in No. 3 Dickerson was found at 2,020-2,148 feet, and the casing was cemented at 2,018 feet. Same operators' No. 1 McCrory, SE cor. Section 10-1-3w, about three-quarters of a mile northwest of production, was drilling deeper at 2,500 feet after drilling the cement plugs at 2,353 feet.

Carter Oil Co.'s No. 1 Grooms, SE cor. NE NE Section 24-1s-3w, on the east side of the field, was shut down waiting for cement at a total depth of 2,080 feet. A showing of oil was found in sand at 1,920-2,033 feet.

In the north extension to the field, Magnolia Petroleum Co.'s No. 3 Carter, NW cor. SE SW Section 14-1s-3w, was preparing to drill into the pay horizon. The location is a diagonal offset to the Lesh-McCall's No. 1 Rufus, which extended production to the north.

L. J. Woodruff and others' No. 1 Brady, NW cor. SW SW Section 32-1s-2w, was nearing the pay horizon drilling at 2,000 feet. The test is southeast of Gouin and others' extension well, which extended production southwest of the pool.

Stephens County

Two showings of oil were found in the Stephens County shallow areas and two dry holes were reported with one new location. The shallow areas in the county have been active during the last few months and operators have been successful in their search for new production which led to considerable wildcat drilling.

George Pace's No. 7 Watkins, NW cor. NE SE SE, Section 21-2s-7w, is being tested for production in sand at 1,709-14 feet. Same operator's No. 4 Dilley, NW cor. NE NW SW, Section 27-2s-7w, has cemented casing at 1,498-1,503 feet to test an oil showing. Carter Oil Co. and others' No. 1 Duncan, NE cor. SW NE, Section 28-2s-7w, is spudding.

Empire Oil & Refining Co.'s No. 2 Miller, SE cor. NE NE NE, Section 5-2s-8w, an old producer on the south edge of the Empire Field, is being abandoned at a total depth of 2,250 feet. The test found sand at 2,240 feet with water. Louis Sikes and others' No. 1 Kirk, NW cor. SE, Section 16-1s-8w, a wildcat, is being plugged and abandoned at 3,356 feet.

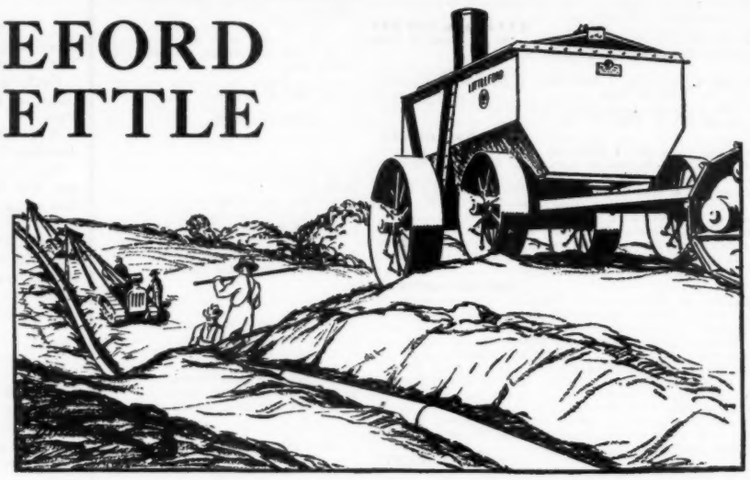
The announcement of a new location was made during the week by A. L. Andree and others for No. 1 Patrick, CNL SE SE, Section 3-3s-8w, a wildcat, south and west of the extension area near Comanche, which has been yielding large wells from the shallow sands.

Stanolind Oil & Gas Co. and others' No. 3 Pitts, SW cor. NE NW SE, Section 3-2s-8w, a wildcat south of the Empire Field, was drilling in sandy shale at 2,695 feet. The test is drilling below the producing horizon in the field.

Turner's No. 1 Andrews, NW cor. SW SW, Section 5-2s-7w, reached a total depth of 1,827 feet, and was shut down. Obermeyer & Taylor's No. 1 Skelton, NE cor. SW SW, Section 32-1s-7w, was shut down at 1,375 feet.

Two wildcat tests north of Duncan were drilling and three others were shut down. Junior Oil Co.'s No. 1 Thompson, SE cor., Section 1-1-7w, was spudding. W. O. Smythe and others' No. 2 House, NW cor., Section 29-2-8w, was drilling at 1,220 feet. Crane and Rankin's No. 1 Adkins, NE cor. SE, Section 14-1-9w, was shut down at 2,235 feet. C. Wylie and others' No. 1 Wilson, NW cor. SW, Section 2-2s-5w, in the

It is the LITTLEFORD "HOT DOPE" KETTLE *for Pipe Line Work*



Faster Melting, greater strength and no splashing are the outstanding features of the new Littleford Oil Burning "Hot Dope" Kettles designed exclusively for Pipe Line Work.

Double Circulation of heat through the furnace shell and around the melting tank develops heating of material at a speed that cannot be obtained by any other method. Over-heating, coking and flashing are eliminated.

Write for full particulars. Let us explain the principle of *double heat circulation.*

The two-wheeled "Hot Dope" Kettle, made in 110, 165 and 210 gallon capacities. Ideal for coupling coating and maintenance work. Shown equipped with dial type thermometer.

STRENGTH is the first requirement for a kettle in the pipe line field. When the going is rough, the Littleford "Hot Dope" Kettle can be hitched to a tractor and pulled by sheer force through bogs and over rough country. The four-wheeled outfit illustrated above has high carbon 2½" square axles, front and rear; and Heavy Duty wheels with roller bearings. It has special splash and surge plate arrangement that prevents slopping over of material. Capacities, 300 and 550 gallons. It is provided with two large Littleford Torch-Type oil burners. Because of Double Heat Circulation, you need never wait for a supply of "hot dope." Write for a complete description.

LITTLEFORD BROS.

502 E. Pearl St., Cincinnati, Ohio

LITTLEFORD KETTLES SINCE 1900

PORTABLE HOUSES *with* 95% SALVAGE

The economy of erecting Houston Ready-Cut and Sectional houses and buildings is readily appreciated when it becomes necessary to move from one location to another. These houses or buildings can be dismantled, easily and quickly, hauled to their new location and promptly erected with but a 5% loss of materials. The sections from which they are constructed are rigidly built at the factory, and with a reasonable amount of care in erecting and dismantling no difficulty is experienced in assembling them into a complete and ready to occupy structure.

The high grade material and skilled workmanship assures durability, economy and satisfaction. Write for our catalog of hundreds of plans for all types of oil industry buildings.

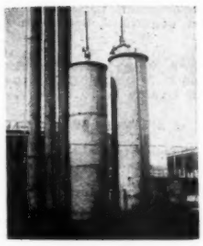
WRITE FOR CATALOG

HOUSTON READY-CUT HOUSE CO.

Successors to Crain Ready-Cut House Co.

HOUSTON, TEXAS

What Oakite did for three Oklahoma absorption plants



Plant No. 1: Increased efficiency 30%.

Plant No. 2: Increased production from 21,000 to 23,000 gallons daily, and reduced waste gas from .1 to .03.

Plant No. 3: Made available a temperature of 350°, the highest when still was new; restored original production of 8,000 gallons daily.

These were the results, after the three absorption units had been cleaned by a method originated and developed by the Oakite Field Technical Division.

If your absorption units, or heat exchangers and oil coolers, are not functioning efficiently because of muck, salt deposits, and basic sediment, investigate this successful Oakite method and the economies that you are sure to gain by it.

Why not go over the details with our near-by Service Man, or drop us a line on your letterhead and further information will be forwarded to you. No obligations.

Oakite Service Men, cleaning specialists, are located in the leading industrial centers of the U. S. and Canada.

Manufactured only by

OAKITE PRODUCTS, INC., 44C Thames Street, NEW YORK, N. Y.

OAKITE

TRADE MARK REG. U.S. PAT. OFF.

Industrial Cleaning Materials and Methods

Santa Fe shallow area, has cemented casing on oil sand and is shut down. R. Southard and others' No. 1 McKinney, NE cor., Section 25-1-8w, a wildcat, was shut down at 1,063 feet.

Greater Seminole Production

The production from the Greater Seminole area for the week ending January 5 averaged 187,306 bbls. from 2,879 wells. The first 12 pools listed below comprise the Seminole Field, which averaged 126,034 bbls. a day from 1,883 wells.

Pool—	Wells	Bbls.
Little River	373	21,267
East Little River	84	10,321
Carr City	78	12,267
Maud	134	2,506
Mission	90	5,116
Bowlegs	279	12,430
Earlsboro	283	17,252
South Earlsboro	29	7,503
East Earlsboro	160	16,661
Seminole	256	13,487
East Seminole	33	1,716
Searight	84	5,508
Total	1,883	126,034
Allen	276	12,737
Asher	26	783
Wanette	51	8,011
Konawa	111	16,308
Sasakwa	50	4,103
St. Louis	482	19,330
Total	2,879	187,306

Pipe Line Shipments

The pipe line shipments from the Greater Seminole area totaled 175,063 bbls. for the week ending January 5. The daily average shipments by companies from the various pools were as follows:

Company—	Semi-nole bbls.	Asher, Pearson, St. Louis bbls.	Konawa bbls.
Barnsdall	1,288	.....	.....
Champlin	4,133	.....	560
Consolidated	.....	2,144	.....
Cosden	7,165	.....	3,329
Deep Rock	2,822	2,455	.....
Empire	6,561	.....	.....
Gulf	14,366	2,881	436
Magnolia	7,487	5,005	3,584
Oklahoma	19,856	435	210
Phillips	589	.....	.....
Prairie	4,549	2,303	1,030
Prod. & Ref.	594	.....	.....
Pure	9,413	.....	.....
Shell	4,007	317	1,146
Stanolind	32,078	7,097	4,608
Texas	9,734	3,531	1,169
Tidal	8,510	3,409	.....
White Oak	286	.....	.....
Total	123,438	29,577	16,078
Tank cars	5,301	669	
Grand total	128,739	30,246	

Oklahoma City Shipments

The total crude oil shipments from the Oklahoma City Pool for the week ending January 5, were 542,906 bbls. The daily average was 77,556 bbls., a decline of 26,409 bbls. from the previous week. The total shipments by companies were as follows:

Company—	Bbls.
Empire	129,362
I. T. I. O.	46,001
Magnolia	90,023
Oklahoma	111,620
Prairie	6,519
Stanolind	66,882
Sinclair	45,479
Shell	6,338
Tidal	22,752
Champlin	8,495
Century	6,480
Wilcox	2,200
Anderson & Prichard	750
Total	542,906

Oklahoma City Production

The following wells were on production during the seven days ending January 5, in the Oklahoma City Field, under proration orders. All other completed wells were shut in and will be opened and produced according to the curtailment plan.

Company, farm—	S-T-R	Wells	Bbls.
Anderson-Prichard:			
Gibbons	1-11-3	4	399
Roosevelt Place	2-11-3	5	889
Blackstock et al:			
Harvey	15-11-3	1	293
Blackwell:			
Community	10-11-3	1	1,063
Scruggs	35-12-3	1	2
Blackwell-Jones Drlg.:			
Sullivan	1-11-3	1	237
British-American:			
Eckroat	10-11-3	1	1,011
Holmes	10-11-3	7	3,324
Century:			
Wheeler School	10-11-3	1	1,438
Chattam:			
Lindsey	2-11-3	1	2,292
Coline:			
Clour	23-11-3	16	1,051
Olds	24-11-3	10	810
Warren	18-11-2	8	518
Continental:			
Sudik	6-10-2	4	145
Cromwell-Franklin:			
T. Park	13-11-3	21	5,717
Denver:			
Whitten	14-11-3	1	542
Don Leon:			
Hunsicker	2-11-3	1	543
Hall-Briscoe:			
Muller	2-11-3	1	241
I. T. I. O.:			
Banta	18-11-2	1	15
Bod. Anderson	30-11-2	3	26
Bodine, A.	24-11-3	6	78
Bodine, S.	30-11-2	3	8
Borden	23-11-3	1	47
Brokaw, A.	13-11-3	4	40
Butterfield	11-11-3	1	189
Carrico	14-11-3	5	1,237
Coppinger	11-11-3	8	1,008
Corff	11-11-3	5	511
Drake	14-11-3	2	97
Eacock	11-11-3	2	149
Emmerson, N.	30-11-2	11	92
Farley, L.	19-11-2	4	338
Farley, Fuzzell	19-11-2	2	303
Ferndale, Comm.	11-11-3	5	92
Foster	24-11-3	1	5
George	7-11-2	1	11
Handl	11-11-3	1	86
Holmes-Gray	14-11-3	1	59
Johnson	25-11-3	9	172
Jones, H. W.	1-11-3	4	722
Jones	31-11-2	14	1,751
Knox, May	14-11-3	4	193
K. Henning	24-11-3	3	56
Lawrence Place	15-11-3	3	2,602
Lemmon	11-11-3	4	55
M. K. & T.	35-12-3	4	1,162
Mt. Vernon Heights	15-11-3	1	44
Okla. State Land	36-11-3	8	196
Pasadena Heights	14-11-3	4	33
Peterson, Sad	25-11-3	3	709
Precure, A.	11-11-3	1	246
Precure, E.	11-11-3	2	625
Reynolds	6-10-2	1	23
Salasman	32-11-2	5	13
Spannagle	15-11-3	1	522
Speegle et al	24-11-3	3	132
Spillman	14-11-3	3	653
Sudik	31-11-2	11	2,574
Thelmer, E.	12-11-3	8	412
Trosper	13-11-3	10	434
Trosper, Clar.	14-11-3	4	612
Trosper, C. E.	11-11-3	1	217
Trosper, H. G.	14-11-3	6	1,533
Trosper, L.	12-11-3	2	9
Unsell, M.	23-11-3	6	719
Unsell-Krager	23-11-3	2	1,559
Waters	23-11-3	5	168
Wheeland	10-11-3	1	748
Williams	23-11-3	1	156
Williamson, Can.	24-11-3	2	387
I. T. I. O. et al:			
Boulevard, Add.	14-11-3	1	41
Kedberg:			
Burss	2-11-3	1	501
Mid-Kansas:			
Molliman	23-11-3	4	402
Trosper, D. B.	19-12-1	1	164
Minnehoma:			
Pugh	3-11-3	1	1,544
Morgan:			
Stout	2-11-3	1	9,956
Phillips:			
Carey	2-11-3	1	131
Clayton	10-11-3	1	838
Day	2-11-3	1	1,521
Lybrand	2-11-3	1	1,106
Plains:			
Saddler	12-11-3	1	523
Prairie-Slick:			
Hiddleston	19-11-2	7	78
Sigmon	32-11-2	7	565
Shaffer, J. C.:			
Childs	14-11-3	1	154
Shaffer et al:			
Vinita Park	2-11-3	2	458
Shell:			
Petty	30-11-2	7	54
Sinclair:			
S. Land No. 54	36-11-3	16	2,197
S. Land No. 67	36-11-3	4	963
Stamper	30-11-2	6	36
Venci	31-11-2	16	3,573
Sinclair-Amerada:			
S. Land No. 69	36-11-3	3	1,026
Skelly:			
Dunn	1-11-3	1	1,068
Fields	10-11-3	1	663
Skelly et al:			
Dillon	2-11-3	2	880
Ainsworth	10-11-3	4	261
Hoops	31-11-2	8	977
Tanner	10-11-3	2	258
Slick, T. B.:			
Campbell	3-11-3	2	4,143
Classen	2-11-3	3	2,357
Foote	2-11-3	2	151
Glidden	18-11-3	2	43
Moore	2-11-3	1	36
Trumbley	2-11-3	1	136
Wespaco	34-12-3	1	2,056
Slick et al:			
Baker	1-11-3	5	201
Page	14-11-3	2	71
Miller	2-11-3	1	121
Hoops	31-11-2	8	26
Slick-L. T. I. O.:			
Dennis	11-11-3	1	130
Houston	2-11-3	1	60
Sunray:			
Harris	2-11-3	1	205
Wirt Franklin:			
Lowery	12-11-3	10	2,673
Page	35-12-3	5	152
Page, Tucker	35-12-3	1	298
Theimer	2-11-3	12	1,820
Wright	2-11-3	3	237
Wright-Smith:			
Smith	2-11-3	2	522
Total	677		89,516
Last week	676		88,435

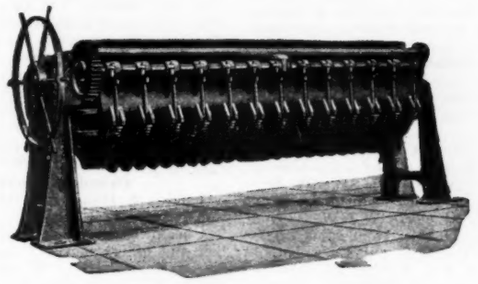
New wells, 3. Dry and abandoned, 2. Increase 1,081 bbls. Average per well for pool, 132 bbls.

Caddo County

Mid-Kansas Oil & Gas Co. and Ramsey Petroleum Co.'s No. 1 Rowe, SW cor. NW NE, Section 36-6-10w, has been

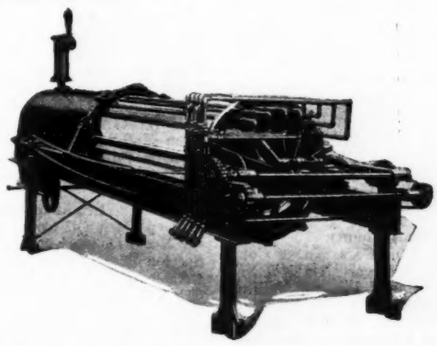
3 Important Phases of Oliver United's Work in Connection With Petroleum.

Contact Filters . . . . . just recently a large refinery bought seven more Sweetland Pressure Filters for handling contact clays. This is added evidence of the popularity of this well-known filter for contact work.



Re-Filtering Lube Oils . . . . this use of the Sweetland Filter is interesting refinery officials more and more. The point is that oil in storage might pick up some contaminating solids. The Sweetland Filter is being used to assure the clarity of the oil which is passed through the filter just before being loaded for shipment.

Cracking Still Residuum . . . . . this product in its original state is practically worthless. Even worse, it is usually a "white elephant." But in a number of refineries, the residuum is cleaned up in the Kelly Pressure Filter and made into a marketable product. Look into the merits of this step.



These three phases of Oliver United's work on petroleum and its products are indicative of the broad work that is being and can be done. For *any* problem involving the separation of liquids from solids, Oliver United has the trained staff of engineers and the most complete line of filters.

For consultation get in touch with our nearest office or agent.

OLIVER UNITED FILTERS INC.

SAN FRANCISCO
Federal Reserve Bank Bldg.
NEW YORK
33 West 42nd St.
CHICAGO
565 Washington Blvd.

LONDON, W. C. 1.
150 Southampton Row
PARIS
T. L. Genter, Concessionaire,
63 Avenue des Champs Elysees

Factories:
Oakland, Calif., Hazelton, Penna., Peterboro, England
Cable Address: OLIUNIFILT

Agents in Principal Foreign Cities

Johannesburg: E. L. Bateman
Tokyo: American Trading Co., Inc.
Melbourne: Fyvie & Stewart
Honolulu: W. A. Ramsay Co.
Manila: The Edward J. Nell Co.
Timmins, Ontario: B. D. Kelly
Halle, Germany: Wilhelm Lill
Scheveningen, Holland, and Soerabaia, Java: Van Lelyveld & Co.
Recife, Brazil: Ayres & Son
Stockholm, Sweden: T. Au Tesch

completed for 1,196 bbls. in sand 3,312-28 feet.

Carter County

Trevelyn Oil Co. has built the rig for No. 4 W. Mitchell, SW cor. SE. Section 24-1s-3w. The Texas Company's No. 5 Eaves, SE cor. SW, Section 24-1s-3w, has been completed for 110 bbls. swabbing from sands 2,380-86 feet and 2,399-2,412 feet. J. E. McCarty's No. 1 E. Noble, NW cor. SE SW, Section 14-2s-2w, has been abandoned at 503 feet.

Cleveland County

Harris & McNeal's No. 1 Corbett, C SW NE, Section 20-6-1, is dry and abandoned at 6,760 feet.

Comanche County

Max Pray Oil Co.'s No. 1-A Kline, NE cor., Section 8-3-10w, is rigging up. Zoe Wright and Roy Carter's No. 1 Bowen, SW cor. SE, Section 29-2-9w, is drilling at 450 feet.

Cotton County

Shasta Oil Co.'s No. 1 Joe Tilley, CNL NE NE, Section 23-1s-10w, has drilled to 1,940 feet and cemented casing at 1,930 feet.

Creek County

Burton & Holmes moved a machine in for No. 1 Snakeye, SE cor. SW SW, Section 5-18-10. R. E. Freeman and others' No. 1 Harris, NE cor. SW NW, Section 15-19-7, made 20 bbls. from sand 2,687-2,769 feet. American Oil Co.'s No. 1 Tiger, SE cor. NE, Section 26-17-10, is dry and abandoned at 2,630 feet. Wilson Petroleum Co.'s No. 1 M. Cat, SE cor. SW, Section 31-16-9, has been abandoned at 3,090 feet. C. G. Tibbins Oil & Gas Co.'s No. 3 Harry, NW cor. NE NW, Section 9-14-10, had Wilcox sand 3,238-48 feet and plugged back to sand 3,157-72 feet where it is pumping 5 bbls.

Grady County

Badgett & Cooper's No. 2 Miller, NW cor. SW, Section 25-4-8w, has been completed for 14,000,000 feet of gas in sand 1,853-61 feet, total depth 1,905 feet.

Kingfisher County

The Prairie Oil & Gas Co.'s No. 1 Wright, C NW SW, Section 23-15-5w, has been abandoned at 6,895 feet.

Lincoln County

H. D. Truck and others' No. 1 Wolf, NW cor. NE NE NW, Section 12-15-6, is a rig. Blackwell Oil & Gas Co.'s No. 1 Marchant, SE cor. NW SE, Section 28-17-4, has been completed for 1,000,000 feet of gas at 4,400 feet after plugging back from 4,435 feet in sand topped at 4,394 feet.

Marshall County

Mutual Oil & Gas Co.'s No. 1 Commerce Trust Co., SW cor. NE NE SE, Section 36-5s-5, Madill Pool, is drilling at 200 feet. Mutual Oil & Gas Co.'s No. 1 Sharp, NW cor. SE SE NW, Section 3-5s-6, is dry and abandoned at 805 feet. A. A. Akers' No. 1 Spier, SW cor. SE SW, Section 33-5s-7, has been abandoned at 465 feet.

Oklahoma County

Phillips Petroleum Co. made location for No. 1 Hare, NE cor. SW SE, Section 34-12-3w, Oklahoma City Pool. Morgan Royalty Co. has the rig up for No. 1 Bisbee, Block 3, Lot 13, McCornack's Factory Addition, NW cor. SE NW, Section 3-11-3w. Indian Territory Illuminating Oil Co. has the cellar dug for No. 2 Terrace Lawn, Block 24, Lot 27, Terrace Lawn Addition, SW cor. NE NW NE, Section 10-11-3w. Anderson & Prichard and Phillips Petroleum Co. staked location for No. 1 Wilhoit Community, Block 23, Lot 23, Terrace Lawn Addition, C NL SE NW NE, Section 10-11-3w. Franco-Dominion Oil Co., Ltd., is erecting the rig for No. 1 Eckroat, Block 12, Lot 4, Eckroat Addition, SW cor. NW SE NW, Section 10-11-3w. Hall Oil & Gas Co. and Westgate Oil Co.'s No. 1 Wilson, NW cor. NE SW NW, Section 10-11-3w, is a cellar. Patton and H. F. Wilcox Oil & Gas Co. made location for No. 1 Volk, Block 18, Fruitland Addition, NW cor. SE, Section 15-11-3w. T. B. Slick estate's No. 1 Wespaco, CNL SE SW SE, Section 34-12-3w, has been completed for 16,831 bbls. in seven hours from Wilcox sand 6,310-6,430 feet. Empire Oil & Refining Co.'s No. 2 Gustine, SW cor. NW NE, Section 1-11-3w, made 2,066 bbls. in eight hours from sand 6,472-78 feet. Anderson & Prichard's No. 1 Gibbons, SE cor. NE, Section 2-11-3w, had sand 6,115-6,491 feet and made 2,591 bbls. in 18 hours. Don Leon Oil Co.'s No. 1 Hunsicker, SW cor. NW NW, Section 2-11-3w, produced 16,296 bbls. in 6½ hours from Wilcox sand 6,258-6,525 feet. Phillips Petroleum Co.'s No. 1 Carey, CSL N half NE NW, Section 2-11-3w, has been completed for 4,866 bbls. in sand 6,285-6,530 feet. No. 1 Day, NW cor. NE SW NW, Section 2-11-3w, made 12,198 bbls. from sand 6,232-6,348 feet. T. B. Slick estate's No. 3 Classen, CSL NE NW NW, Section 2-11-3w, made 17,304 bbls. in 8¼ hours from sand 6,248-6,570 feet. Wirt Franklin Petroleum Corp.'s No. 5 Theimer, SW cor. SE SE, Section 2-11-3w, has been completed for 948 bbls. in eight hours in sand 6,454 feet. T. B. Slick estate's No. 3 Campbell, SE cor. NE NE, Section 3-11-3w, made 11,301 bbls. from sand 6,285-6,555 feet. Indian Territory Illuminating Oil Co. and others' No. 6 Hugh Trosper, SE cor. SW NE, Section 14-11-3w, made 646 bbls. in 12 hours from sand 6,235-6,489 feet. No. 2 Lawrence Place, SW cor. NW NE, Section 15-11-3w, has been completed for 18,653 bbls. in 18 hours and 25 minutes producing from sand 6,360-6,535 feet.

Okmulgee County

Jenkins & Dodge and others' No. 1-A Cousino, NE cor. SW, Section 2-15-12, has been abandoned at 2,547 feet. English and others moved a machine in for No. 3 Harris, CNL SE SE, Section 1-14-14. Whitcomb and others' No. 4 Harris, CSL NE NE, Section 1-14-14, is a machine. F. Hyer's No. 7 S. Barnett, SE cor. NE NE NW, Section 2-15-14, has been deepened to Wilcox sand and abandoned at 1,912 feet. J. E. Wallace's No. 1-A C. Rentie, C NW SW, Section 11-14-14, is dry and abandoned at 2,474 feet.

Pontotoc County

G. J. Lunch and others' No. 1 Newby, NE cor. SE NE NE, Section 24-5-4, is drilling at 120 feet.

Pottawatomie County

Continental Oil Co.'s No. 1 Walgreen, SE cor. SW, Section 4-7-4, has been completed for 198 bbls. in Hunton lime 3,765-3,840 feet after being plugged back from 3,965 feet. Deep Rock Oil Corp.'s No. 5 Gibson, NE cor. SW NE, Section 23-6-3, West Asher Pool, made 1,013 bbls. from sand 3,390-3,413 feet. Magnolia Petroleum Co.'s No. 1 Alexander, NE cor., Section 27-6-3, is dry and abandoned at 4,505 feet.

Seminole County

Deep Rock Oil Corp. moved the rig in for No. 5 Douglas 50 acres, NW cor. SE, Section 30-8-8, Wewoka Pool. Magnolia Petroleum Co.'s No. 5 Grounds, NE cor. SE NW, Section 23-9-5, East Earlsboro Pool, has been completed for 205 bbls. in Wilcox sand 4,315-24 feet. Amerada Petroleum Corp.'s No. 3 Tiger, NE cor. NW SW, Section 3-8-5, Carr City Pool, has been completed for 540 bbls. in Hunton lime 3,896-3,938 feet, total depth 4,042 feet. Deep Rock Oil Corp.'s No. 2 Douglas 50 acres, SW cor. NE, Section 30-8-8, Wewoka Townsite Pool, has been completed for 2,100 bbls. in Wilcox sands 3,932-4,000 feet and 4,023-28 feet. O. H. Parkeuing's No. 1 Wilson, SE cor. NW, Section 27-7-5, is dry and abandoned at 4,529 feet. The Prairie Oil & Gas Co. and T. B. Slick estate's No. 4 Hyde, NE cor. SW NW, Section 2-8-5, is a rig.

Stephens County

Junior Oil Co.'s No. 1 Thompson, NE cor. SW SE, Section 1-1-7w, has cemented surface pipe. Hawkes & Carter Oil Co.'s No. 1 Duncan, NE cor. SW NE, Section 28-2s-7w, is rigging up rotary. A. L. Andree made location for No. 1 Patrick, C S half SE, Section 3-3s-8w. Sykes and others' No. 1 Kirk, NW cor. SE, Section 16-1s-8w, has been abandoned at 3,356 feet. Ven Mex Oil Co. and Mid-Continent Oil Co.'s No. 4 Nigh, NE cor. NW, Section 34-1s-8w, is pumping 4 bbls. from sand 1,956-66 feet. Empire Oil & Refining Co.'s No. 2 Miller, CEL NE NE, Section 5-2s-8w, has been abandoned at 2,250 feet.

Tulsa County

L. L. Boyd's No. 1 Costello, SE cor. SW NE, Section 2-18-14, is rigging up. Coffee and others' No. 4 Evans, SW cor. NE, Section 3-16-12, is rigging up. McCune and others' No. 1-A Jefferson, CNL NE SE, Section 23-19-11, has been completed for 25 bbls. in sand 2,221-44 feet. Ohio Oil Co.'s No. 2 Haikey, CEL SW SW, Section 33-18-14, made 20 bbls. in sand 1,502-28 feet.

Kay County

Pine and others' No. 2 Ogg, NW cor. NE SW SE, Section 35-25-1w, is rigging up.

Haskell County

Mid-Western Oil & Gas Co.'s No. 1 Polster, C NE SE, Section 33-10-22, has been abandoned at 4,297 feet.

Latimer County

Howard and others' No. 1 Holmes Investment Co., SE cor. SW NW, Section 16-3-21, is spudding. Choctaw Gas Co.'s No. 1 Paunocci, C SE NE, Section 3-6-22, has been completed for 3,000,000 feet of gas in sand 1,610-1,890 feet.

McIntosh County

Indian Territory Illuminating Oil Co.'s No. 1 J. Mulkey, C NE NE, Section 36-12-18, is drilling at 250 feet.

Muskogee County

P. Boyle and others' No. 3 E. Ware, SE cor. NE SW NE, Section 14-15-15, is rigging up. Francis Corp.'s No. 1 P. Lewis, NW cor. NE SE, Section 14-15-15, is rigging up. C. W. Brown's No. 1-A Young, SE cor. NE, Section 15-15-15, is drilling at 200 feet. A. T. Kreps and others' No. 1 Jackson, C SE SE, Section 19-15-17, has been abandoned at 1,750 feet.

Noble County

Magnolia Petroleum Co. and Bu-Vi-Bar Petroleum Corp.'s No. 2 Young, NW cor. SW NW, Section 22-21-2w, Lucien Pool, is a rig under construction.

Osage County

L. G. Stanley and others moved a machine in for No. 4, SW cor. NW NE, Section 14-21-8. John W. Fitzgerald's No. 1, NW cor. SW, Section 26-27-11, has been completed for 8 bbls. in sand 1,015-34 feet.

Pawnee County

Peter Adamson, Jr., has a machine on the location for No. 2 Moore, CEL SE SW, Section 24-21-7. No. 1-A Moore, C E half SE SW, Section 24-21-7, is dry and abandoned at 2,807 feet. Dewey Neal and others' No. 2 Diem, SW cor. NE NW, Section 18-21-8, has been abandoned at 2,762 feet.

Pittsburg County

Mid-Western Oil & Gas Co. has a machine on the location for No. 1 White, SE cor. NE SE, Section 8-7-18. Cities Service Co.'s No. 1 Hughes, C NW NW, Section 16-6-17, is a dry hole at 2,285 feet.

Wagoner County

W. R. Bowman and others' No. 3 Allen, NW cor. NE SE, Section 15-17-16, is drilling at 745 feet. Bailey and others' No. 5 Replogle, CWL NW NE, Section 31-19-16, has been completed for 15 bbls. in sand 650-72 feet. J. H. Striker's No. 4 Prince, NE cor. SW, Section 29-18-16, is dry and abandoned at 850 feet. Ash Brothers' No. 2 Childers, SW cor. NW SE, Section 15-18-17, has been completed for 15 bbls. in sand 832-50 feet. A. W. Swift and others' No. 1 Chockley, SE cor. SW, Section 27-17-16, has been abandoned at 1,600 feet.

Washington County

Dewey Portland Cement Co.'s No. 1 Stepp, CEL NW NE, Section 16-28-13, is dry and abandoned at 1,638 feet.

CANADIAN FIELDS

(Continued from Page 83)

In the Central Turner Valley, McLeod Oil Co.'s No. 5, LSD 15, Section 1-20-3w5, is testing production at 5,188 feet, 234 feet in the lime horizon. With a wet gas flow of 13,000,000 feet the initial naphtha recovery was 63 bbls. a day, which, with adjustments of back pressure, was later increased to around 80 bbls.

In the same section, Okalta Oils' No. 2, LSD 8, is at 5,085 feet, corrected depth, or 330 feet in the lime, and testing production. A wet gas flow of 12,500,000 feet from the upper horizons was somewhat increased by deepening. If the test fails to show satisfactory recovery, the well may be shot.

In Section 12-20-3w5, New McDougall-Segur Oil Co.'s No. 2, LSD 14, is reported 600 feet in the linestone at around 5,650 feet, with a small gas production and will be shot in an effort to develop commercial production. New McDougall-Segur's No. 3, same LSD, is reported drilling 130 feet in the lime at 5,570 feet. Widney Petroleum' No. 1, LSD 11, Section 12-20-3w5, is 15 feet in the lime at 5,030 feet and underreaming to cement 8-inch casing before drilling into production. The well for some months secured a fair light crude production from the McDougall-Segur sands but this was shut off before deepening. The Dalhousie sands were drilled through without a show, but since the test reached the lime considerable light crude has been seeping into the hole, apparently from the Dalhousie and 146 bbls. was bailed in one day and there are about 500 bbls. still in the hole.

Dome Oils' No. 2, LSD 16, Section 36-19-3w5, is drilling close to the Home sands at 4,590 feet after getting a good show of light crude and gas at 4,540 feet.

Shareholders of the New McDougall-Segur Oil Co. and the McDougal-Segur Exploration Co. held their annual meetings recently at Calgary re-electing the following officers: President, Fred M. Graham; secretary-treasurer, A. M. Pinkham; directors, R. J. Hutchings, J. McKinley Cameron, D. J. Young, Dr. Stewart MacKid, Thomas M. Carlyle and John I. McFarland.

Shareholders of the Turner Valley Oil Co. met recently when the following officers were elected: President, Hugh Milvain; vice president, W. C. Nancarrow; secretary, J. H. Williams; directors, F. De Roussy de Sales, W. H. King, W. T. Millar, R. B. Wilkinson, J. H. Garden. Acreage held by the company in North Turner Valley is being tested by Freehold Oil Corp.'s No. 1, SW Section 3-21-w5; this test has been standing at 4,825 feet but arrangements are being made for its completion this year.

Imperial Drilling

In the South Turner Valley, Imperial Oil, Ltd. is continuing work on Merland Oil Co.'s No. 1, Section 27-18-2w5, which is reported fishing at 4,878 feet. According to J. H. McLeod, production manager, the Imperial company is not committed to completion of the test, but is merely investigating the well. This test, the southernmost in the Turner Valley Field, is thought to be within 100 feet of the lime, with lost drill rods and an undischarged shot in the hole. If it can be carried to the lime, it will test the possibility of a southerly extension of the producing area. The southernmost producer at present is Sterling-Pacific Oil Co.'s No. 1, Section 34-18-2w5, which got a small production in the lime.

In the South Turner Valley, Commonwealth Petroleums' No. 1, LSD 7, Section 9-19-2w5, recently resumed drilling after cementing in the top of the lime at 4,647 feet, and encountered a fair flow of gas, sufficient to clear the hole, at 4,671 feet. The well is logging more than 600 feet higher than Mercury Oils' No. 1 which got its big production 104 feet in the lime at 5,376 feet.

On the Dallas tract, LSD 11, Section 20-19-2w5, Calmont Oils' No. 2 is taking production around 100 bbls. a day, and No. 7 has a small production.

In Section 5-19-2w5, Miracle Oils' No. 2, LSD 16, has spudded in and is drilling below 150 feet. Miracle's No. 3 has cellar dug in LSD 11, Section 4-19-2w5, and is hauling timbers. This test offsets Hylo Oils' No. 1, LSD 12, which is drilling around 2,300 feet. East Crest Oil Co.'s No. 3, LSD 4, Section 16-19-2w5, is drilling below 1,323 feet. The test got the top of the Dakotas at 1,090 feet, logging 400 feet higher than East Crest's No. 2-A, which was a 500-bbl. producer.

Red Coulee Field

On the Alberta end of the international Red Coulee structure, Scottish United Petroleums' No. 1, LSD 1, Section 3-1-16w4, is reported drilling around 200 feet. On the Montana end of the structure, Askalta Oils' No. 1, SE, Section 11-37-4w, is reported drilling at 1,470 after a temporary shut down. These are the only tests now reported active on the Red Coulee structure, but it is reported that in the spring several new tests will be started west of the present producing area.

Tests in the Foothills

On the Waite Valle structure, west of Turner Valley, Calgary Development &

Production's No. 1, LSD 10, Section 21-19-3w5, which is being drilled by Imperial Oil, Ltd., is making new hole at 3,289 feet after a protracted fishing job at 3,170 feet.

On the Montana side, International Royalties Co.'s test in the Grandview Field is shutting off water after encountering a show of light paraffin base crude with some gas in the Ellis sand at 2,464 feet. In the Sweetgrass Hills, Western Natural Gas Co.'s No. 1 Mahoney is reported a gasser at 2,060 feet, with flow of 10,000,000 feet a day and around 650 pounds rock pressure.

Wainwright Field

In the Wainwright Field, Edalta Oils' No. 1, LSD 15, Section 19-45-6w4, has been deepened from 2,183 to 2,224 feet. This test was started in 1929, the company being largely financed by a group of men from Prevost, Alberta, Canada, headed by L. H. Meiklejohn. At 2,183 feet it looked like a failure and work was discontinued. On deepening to 2,224 feet the bit entered a second sand and after a satisfactory shut off oil rose 300 feet in the hole. It looks like a fair producer of heavy crude.

British Columbia Drilling

In the Sumas Prairie district, British Columbia, International Pipe Line Co. is moving in drilling equipment on acreage recently taken over by Gas Development of British Columbia, Ltd., a subsidiary of Merger Oil & Gas Co. from the Sumas Oil & Gas Co. Location has been made a quarter mile west of Sumas' No. 2 which has been standing at 925 feet. Sumas' No. 1, drilled in 1929, was lost after a heavy gas flow was struck at 750 feet. Portable drilling equipment will be used for the International test which is to spud in this month. Location is in Section 22-19-5e.

Manitoba Test

In the Manitou district, southern Manitoba, Commonwealth Petroleum's No. 1 is reported drilling below 725 feet, with indications that the gas sand will be met around 800 feet. The English Syndicate test some years ago got a big flow of gas at this depth, but the hole was lost; though enough gas is still coming from the abandoned well to supply the Commonwealth drilling camp. Commonwealth's No. 1 got a fair gas flow, about 500,000 feet, at 500 feet depth. If satisfactory commercial production can be developed on the Manitou structure, the gas will be piped to Winnipeg.

Ontario Operations

The Gas & Oil Developers, Ltd., has been incorporated at Toronto, Ontario, to develop acreage in the eastern sections of the Ontario fields. The company holds 825 acres in the Haldimand gas field, 2,041 acres in Woodhouse Township, Norfolk County, and 207 acres in the Vienna Field, Elgin County; and arrangements are now being completed for an active drilling campaign.

In Dawn Township, Lambton County, Ontario, Union Natural Gas Co.'s No. 53, Lot 18, Concession 1, after being drilled to 2,031 feet was cemented back to 1,700 feet and shot. Gas had been encountered in small quantities between 1,605 and 1,670 feet and the shot developed 400,000 feet a day. Union's No. 54, Steele farm, Lot 26, Concession 10, Euphemia Township, is drilling around 890 feet.

No drilling is being done in the D'Clute or Tilbury Fields in Kent County at present. The outfit used for the Argo Oil & Gas Co.'s test on the Mancell farm near Fletcher has been moved to Mabee's Corners in Norfolk County, where Acme Gas & Oil Co. and allied interests will drill a test for gas.

In the Thorndale district, near London Major Petroleums' No. 1 is reported drilling below 500 feet. George F. Gregory is handling the test. The company holds about 2,500 acres in Ontario and some acreage in Alberta.

LA.-ARK. FIELDS

(Continued from Page 78)

tion 21-15-19, Stephens district of Ouachita County, Arkansas, and was drilling below 1,700 feet. The other Stephens test, Wesson & Bonner's No. 1 Wesson, Section 22-15-19, is waiting on standard rig with 300 feet of fluid in the hole from 2,800 feet, standard depth.

The first independent to bring in a producer in the Clarksville district of Johnson County is River Valley Gas Development Co., whose No. 1 W. F. Collier, SE SE, Section 21-9-25, made 1,500,000 feet of gas at 450 pounds from the first sand at 1,982 feet. There are half a dozen sands below this, ranging down to 3,700-800 feet in this area, all of which have been tested by Arkansas-Louisiana Pipe Line Co. and most of which have been productive.

Van, the Joiner Pool and the latter's recent extension, have fathered such a leasing boom as the border counties of East Texas have never enjoyed before and which is proving a boon to farmers throughout the territory. But close to production it appears to be a cash on the barrel head proposition, though farther away landowners, being anxious to share in the new prosperity, are more liberal. This activity extends north clear into Red River and Bowie Counties, taking in the western portions of Panola, Harrison, Marion, Cass and all other counties north to the Oklahoma line. How anxious these folks are for development is indicated by the action of Marion County landowners who have formally asked the Texas Railroad Commission to not apply proration to the new East Texas pools. Marion County has no production save that extending just across the line from the Caddo fields in Louisiana though it has been thoroughly well drilled during the last 25 years.

Another development of the East Texas boom appears in activities of the Fullers, father and son, in assembling a 10,000-acre block embracing the Waskom gas district and surrounding acreage in Harrison County. Aided by Shreveport capital, they plan a 5,000-foot test or deeper, the idea being to see what underlies the deepest known sand in Waskom, somewhere around 4,000-4,500 feet, to which two wells have been drilled, one of which, by Gulf Production Co., made a few barrels of oil and at last accounts was, after several years, still "oozing" crude. Such a well kept interest in the Zwolle district alive for 14 years until at last the pool was discovered. The same thing might happen at Waskom.

Production

Daily average runs from the several pools were:

NORTH LOUISIANA	
Caddo, light	8,145
Caddo, heavy	2,750
Homer	3,300
Haynesville	5,450
DeSoto-Red River	2,750
Elm Grove	525
Bellevue	590
Cotton Valley	1,765
Urania	5,000
Pleasant Hill	410
Sarepta-Carterville	1,835
Zwolle	7,660
Holly	825
Total	41,055
Last week	41,740
Decrease	685
ARKANSAS	
El Dorado	3,900
Smackover, light	4,530
Smackover, heavy	34,100
Stephens	870
Nevada County	1,025
Lisbon	800
Champagnolle	4,750
Bradley	65
Mount Holly	70
Urbana	920
Total	51,040
Last week	49,780
Increase	1,260
Both states	92,095
Last week	91,520
Increase	575

Other Operations

There was some excitement in Jefferson, Marion County, a few days ago over a reported show of oil in P. E. Hussey's No. 1 Trammell in the Charles Lockhart Survey, but it happens to be fishing for 10 joints of drill stem, total depth 1,884 feet. Hindeman & Rondo have made location in the W. J. Wills Survey, 4 miles east of Ore City, for No. 1 McGaughey. Daisy Oil & Gas Co., St. Louis interests, have begun work on No. 1 Rucks in the John Palmer Survey of Panola County and plan to make a test of the Nacatoch and, failing there, to skid and start a new hole for the deep stuff recently developed in the Bethany district at around 4,700 feet. S. E. Bell and others' No. 1 Burnett Lumber Co., in the S. B. Hendricks Survey, 10 miles northeast of Carthage, after being shut down for a month is washing to bottom preparatory to making more hole. United Production Co. cemented 6⅝-inch at 4,575 feet on No. 5 Baker, in the B. C. Jordan Survey of the Bethany district of Panola, formerly carried as Texas-Louisiana Production Co.'s No. 1 Baker. All Texas-Louisiana operations now are United Production Co. tests.

Mississippi Activity

Besides the Pirtle & Flint well in the Jackson district of Hinds County, Mississippi, that area had one or two other interesting items. In Section 33-6-1, just south of it, Attkison & Dyer, drilling No. 1 Wiggins, topped the chalk at 2,490 feet, cemented 6-inch and got an estimated 15,000,000 feet of gas but killed it to set a string of 4½-inch to cut off water coming through a leaky joint or a crack in the 6-inch. Top of the chalk in the three producers to the north is around 2,500 feet. Love Petroleum Co. is arranging to kill No. 1 Maley, Section 15-5-1e, listed last month as a 100-bbl. producer making 5,000 bbls. of water along with the oil, and some gas, from 2,494 feet. It has been flowing into earthen storage ever since, production of both oil and water decreasing to 1,000 bbls. of water and a few barrels of 13.9 gravity crude and the gas increasing to an estimated 2,000,000 feet. It probably will be cemented to cut off the water and be finished as a gasser. On the Rankin County side of the field, Millstein Oil & Gas Co.'s No. 1 Gammill-Hartfield, SW SE, Section 6-5-1e, half a mile northeast of nearest production, cemented 6⅝-inch at 2,498 feet but was unable to bail below 1,200 feet from the top and was showing a trace of water, total depth 2,503 feet. Amory Petroleum Co.'s No. 3 Carter, in the original Mississippi gas field opened in 1926, gauged 182,000 feet of gas at 2,388-91 feet and was arranging for a 10-quart shot. Total depth is 2,400 feet.

KANSAS FIELDS

(Continued from Page 76)

allowable output for the month of January is approximately 15,000 bbls. a day. Tests show the Derby Oil Co.'s Stuckey lease in Section 9-21-3w, has the largest potential gauge in the field, with 8,608 bbls. a day from eight wells. The present proration plan in the Voshell Pool expires February 1.

Butler County

Condon & Cadman's No. 1 Price, NE cor. NW NE SE, Section 8-29-6, is dry and abandoned at 2,901 feet.

Greenwood County

McBride, Inc., moved the rig in for No. 1 Good, C SE SW, Section 3-28-11.

Marion County

Stearns & Streeter's No. 2 McNichol, NE cor., Section 15-17-4, has been completed for 100 bbls. in chat 2,339-96 feet.

Morris County

Snyder & Rumbuck's No. 1 Carpenter, SW cor. NE, Section 27-17-7, has been completed for 500,000 feet of gas in sand 600-23 feet. No. 2 Carpenter, C NW SE, Section 27-17-7, made 500,000 feet of gas from sand 600-25 feet. No. 3 Carpenter, C SW SE, Section 27-17-7, gauged 150,000 feet of gas from sand 600-27 feet. No. 4 Carpenter, C NW NE, Section 27-17-7, has been completed for 250,000 feet of gas in sand 600-17 feet.

Morton County

Texas Interstate Pipe Line Co.'s No. 1 Phillips, C SE, Section 16-35-39w, has been completed in sand 2,670-2,714 feet, gauging 10,569,000 feet of gas.

Russell County

Signal Oil Co. and Mid-Kansas Oil & Gas Co. has the cellar dug for No. 1 Berry, NW cor. SW SW, Section 27-15-13w. Location has been staked for No. 2 Berry, SW cor. NW SW, Section 27-15-13w. Signal Oil Co. made location for No. 2 Rude, SE cor. NE SE, Section 28-15-13w.

Stevens County

Pioneer Petroleum Co. and Rosenthal's No. 1 Eby, C NE, Section 16-35-38w, made 3,000,000 feet of gas from sand 2,610-2,734 feet.

PETROLEUM RESOURCES OF BRITISH EMPIRE

Petroleum resources of the British Empire are the subject of a report which has been received by the Department of Commerce from Alfredo L. Demorest, American Vice Consul at Trinidad, British West Indies. At present India, Trinidad, Sarawak and Canada are the only British countries with well established petroleum industries and in Canada it has only been in recent years that any considerable commercial production has taken place. In the Burma and Assam oil field, India has a large source of production and ranks eleventh on the list of petroleum producing countries, Trinidad being twelfth. Indian petroleum statistics indicate it is becoming more and more difficult to maintain the output of oil at the high level reached in 1919 and 1921, when peak productions of over 305,500,000 gallons were reached, and the output in 1928 totaled no less than 305,943,711 gallons, which is the highest recorded. The Yenangyoung Field of upper Burma, the most highly developed in India, again showed a decline in output, and its place is being steadily taken by the Singu Field, which in a few years will undoubtedly occupy the premier position. Nearly all Indian petroleum is used in that country.

Trinidad is a large producer of petroleum which annually contributes a large sum to the wealth of the colony. During 1929 it exported 288,505,815 imperial gallons. There has been a notable increase in output during recent years.

The oil fields of Sarawak are mainly in the vicinity of the town of Miri and there is only one company operating. For 1928 production was officially reported as 4,447,916 bbls. of petroleum products, consisting of 1,671,811 bbls. of crude, 665,432 bbls. of petrol, 781,059 bbls. of kerosene and 1,329,641 bbls. of fuel oil. Some of the Sarawak wells are said to yield 1,500 bbls. of crude oil daily but this is probably a maximum figure. A conservative report of the industry estimates the present annual production at about 5,250,000 bbls. which is somewhat higher than that recorded for 1928. Export figures show that the supply of crude has remained fairly constant in recent years, but it is said that new wells are constantly being drilled to keep up the output. Available information indicates that over 1,000 wells are now producing.

Supplies of oil have also been found in Barbados and British North Borneo, and in several parts of the empire, including Australia (New South Wales and Tasmania), South Africa and Canada are occurrences of oil shales, those located in New South Wales being reported to be the richest thus far discovered. Their commercial exploitation is only a matter of time. Asphalt has an important use in road construction in all civilized countries, and is imported into the United Kingdom in considerable quantity, the chief source of supply being Trinidad where there is a lake of pitch some 127 acres in extent and of unknown depth.

STANOLIND TAKES PROPERTIES

The Stanolind Oil & Gas Co., a Delaware corporation, took over on January 1, all of the properties, assets, and liabilities of the Midwest Exploration Co. in the State of Texas, and of the Dixie Oil Co., Inc., and the McMan Oil & Gas Co. in all states in which they are domesticated and operating.

The officers and directors of the new company are as follows: F. O. Prior, president and director; A. M. McCorkle, vice president, secretary and treasurer, and director; H. G. Schneider, director; E. F. Bullard, director; F. J. Keleher, assistant secretary and assistant treasurer. The main office of the new company will be maintained in the Philcade Building, Tulsa.

BUREAU OF MINES STATISTICS FOR NOVEMBER, 1930

SUPPLY AND DEMAND OF ALL OILS

(Including wax, coke and asphalt in thousands of barrels of 42 U.S. gallons)

NEW SUPPLY:	Nov., 1930	Oct., 1930	Nov., 1929	Jan.-Nov., 1930	Jan.-Nov., 1929
Domestic production:					
Crude petroleum	68,174	72,696	78,758	829,280	926,406
Daily average	2,272	2,345	2,625	2,483	2,774
Natural gasoline	4,238	4,326	4,504	47,538	47,814
Benzol	187	204	245	2,506	2,817
Total production	72,599	77,226	83,507	879,324	977,037
Daily average	2,420	2,491	2,784	2,633	2,925
Imports:					
Crude petroleum	4,467	5,061	4,554	57,402	73,047
Refined products	2,807	3,799	3,327	40,176	27,374
Total new supply, all oils	79,873	86,086	91,388	976,902	1,077,458
Daily average	2,662	2,777	3,046	2,925	3,226
Increase in stocks, all oils	*1,488	*2,678	*3,042	*16,360	64,698
DEMAND:					
Total demand	81,361	89,764	94,430	993,262	1,012,760
Daily average	2,712	2,896	3,148	2,974	3,032
Exports:					
Crude petroleum	1,765	2,167	2,579	22,367	24,312
Refined products	7,776	11,803	10,565	123,231	124,398
Domestic demand	71,820	75,794	81,286	847,664	864,050
Daily average	2,394	2,445	2,710	2,538	2,587
Excess of daily average domestic production over domestic demand	26	46	74	95	338
STOCKS (end of month):					
Crude petroleum:					
East of California	373,965	375,462	386,383	373,965	386,383
California†	144,205	143,381	153,454	144,205	153,454
Total crude	518,170	518,843	539,837	518,170	539,837
Natural gasoline at plants	596	559	514	596	514
Refined products	154,040	154,892	145,357	154,040	145,357
GRAND TOTAL STOCKS, ALL OILS	672,806	674,294	685,708	672,806	685,708
Day's supply	243	233	218	226	226
Bunker oil (included above in domestic demand)	3,794	4,463	4,110	46,905	48,178

*Decrease. †Includes residual fuel oil.

IMPORTS AND EXPORTS OF CRUDE PETROLEUM AND MAJOR REFINED PRODUCTS*

(Thousands of barrels of 42 U. S. gallons)

CRUDE PETROLEUM:	Nov., 1930 Total	Nov., 1930 Dly. av.	Oct., 1930	Nov., 1929	Jan.-Nov., 1930	Jan.-Nov., 1929
Imports	4,467	149	5,061	4,554	57,402	73,047
From Mexico	887	30	1,043	708	9,421	11,951
From Venezuela	2,371	79	2,458	3,151	32,500	47,417
From Colombia	1,098	36	1,190	420	13,064	10,924
From other countries	111	4	370	275	2,417	2,755
Exports:						
Domestic crude oil	1,765	59	2,167	2,579	22,367	24,312
To Canada	1,443	48	1,675	2,223	17,833	20,755
To other countries	322	11	492	356	4,533	3,550
Shipments	....	....	....	....	1	7
Foreign crude oil	....	....	....	....	....	....
REFINED PRODUCTS:						
Gasoline:						
Imports	1,079	36	1,620	984	15,963	8,118
Exports†	3,690	123	6,322	4,219	61,236	56,054
To United Kingdom	858	28	2,099	1,070	18,276	15,295
To France	571	19	1,063	932	8,721	8,112
To Canada	381	13	388	356	4,131	4,897
To other countries	1,739	58	2,642	1,719	28,941	26,498
Shipments	141	5	131	142	1,166	1,252
Kerosene:						
Exports	1,003	33	1,416	1,319	15,678	18,341
To China	83	3	118	128	2,325	3,152
To United Kingdom	292	9	213	256	2,684	2,541
To other countries	603	20	1,070	918	10,420	12,451
Shipments	25	1	15	17	249	197
Gas oil and fuel oil:						
Imports	1,712	57	2,165	2,297	23,784	18,894
Exports	1,959	65	3,032	4,098	33,340	35,757
To Chile	254	9	378	414	4,006	5,413
To Panama	97	3	395	429	2,815	2,986
To other countries	1,511	50	1,672	2,712	22,869	24,200
Shipments	97	3	587	543	3,650	3,158
Lubricants:						
Exports	804	27	734	603	9,319	9,961
To United Kingdom	143	5	129	77	1,815	1,700
To France	110	4	112	64	1,389	1,542
To other countries	542	18	489	458	6,031	637
Shipments	9	....	4	4	84	82
Wax (thousands of lbs.):						
Imports	3,977	133	3,182	2,609	27,122	37,000
Exports	23,413	780	31,727	26,674	265,053	292,926
To United Kingdom	4,717	157	9,221	7,710	68,997	72,737
To Italy	4,521	151	3,200	4,100	40,271	29,893
To other countries	14,171	472	19,300	14,858	155,753	190,251
Shipments	4	....	6	6	32	45

*From Bureau of Foreign and Domestic Commerce. †Includes benzol—200 bbls. in November, 1930.

INDICATED DOMESTIC DEMAND FOR CRUDE PETROLEUM, EAST OF CALIFORNIA

(Thousands of barrels of 42 U. S. gallons)

Domestic petroleum by fields of origin:	Nov., 1930 Total	Nov., 1930 Daily av.	Oct., 1930 Total	Oct., 1930 Daily av.	Jan.-Nov., 1930	Jan.-Nov., 1929
Appalachian:						
Pennsylvania grade	1,881	63	1,948	63	21,972	31,124
Other (inc. Kentucky)	728	24	760	25	8,973	
Lima-N.E. Ind.-Mich.	600	20	389	13	3,944	6,208
Ill.-S.W. Ind.	212	7	406	13	6,312	7,655
Mid-Continent:						
N. La. and Ark.	3,001	100	3,530	114	33,064	527,464
W. Tex.-S.E. N. Mex.	8,840	295	9,945	321	116,408	
Other (Okla., Kans., N. Texas, etc.)	28,456	948	30,328	978	352,651	
Gulf Coast:						
Grade A	2,103	70	3,356	108	32,046	49,351
Grade B	3,680	123	2,647	85	33,757	
Rocky Mountain	1,616	54	1,964	63	21,299	25,838
California	.....	.....	8	.....	209	.....
Total demand	51,117	1,704	55,281	1,783	630,635	647,650
Exports	842	28	1,800	58	14,710	17,164
Domestic demand	50,275	1,676	53,481	1,725	615,925	630,486
Foreign petroleum	4,917	164	5,212	168	59,335	73,176
Total domestic demand east of California	55,192	1,840	58,693	1,893	675,260	703,662

PRODUCTION OF CRUDE PETROLEUM BY STATES

(Thousands of barrels of 42 U.S. gallons)

	Nov., 1930 Total	Nov., 1930 Dy.av.	Oct., 1930	Nov., 1929*	Jan.-Nov., 1930	Jan.-Nov., 1929*
Arkansas	1,526	51	1,602	1,794	18,093	23,064
California:						
Long Beach	2,920	97	3,041	3,468	33,687	57,242
Santa Fe Springs	2,816	94	2,936	4,838	41,588	71,284
Rest of State	12,373	412	12,267	13,028	135,037	142,298
Total California	18,109	603	18,244	21,334	210,312	270,824
Colorado	131	4	135	157	1,517	2,185
Illinois	375	12	425	506	5,296	5,829
Indiana:						
Southwestern	67	2	70	78	871	840
Northeastern	3	....	5	5	49	55
Total Indiana	70	2	75	83	920	895
Kansas	3,245	108	3,454	3,427	38,467	39,329
Kentucky	523	18	606	724	6,812	7,065
Louisiana:						
Gulf Coast	784	26	809	626	7,592	6,856
Rest of State	1,253	42	1,318	1,126	13,397	11,907
Total Louisiana	2,037	68	2,127	1,752	20,989	18,763
Michigan	264	9	325	460	3,243	4,119
Montana	252	9	239	314	2,859	3,679
New Mexico	1,128	38	1,260	257	8,959	1,565
New York	282	9	313	281	3,514	3,062
Ohio:						
Central and eastern	370	12	444	423	4,795	4,821
Northwestern	87	3	110	110	1,216	1,379
Total Ohio	457	15	554	533	6,011	6,200
Oklahoma:						
Oklahoma City	2,944	98	2,692	1,680	30,795	6,441
Seminole	4,932	164	5,283	9,069	72,437	126,766
Rest of State	7,218	241	8,879	8,500	96,910	101,563
Total Oklahoma	15,094	503	16,854	19,249	200,142	234,770
Pennsylvania	896	30	1,008	1,053	11,871	10,710
Tennessee	2	....	1	1	17	19
Texas:						
Gulf Coast	4,575	153	4,828	4,675	56,443	44,884
West Texas	8,227	274	8,435	10,703	101,244	122,685
Rest of State	9,183	306	10,352	9,415	111,433	103,941
Total Texas	21,985	733	23,615	24,793	269,120	271,510
West Virginia	352	12	420	454	4,711	5,113
Wyoming:						
Salt Creek	838	28	876	931	9,678	10,432
Rest of State	607	20	663	655	6,749	7,263
Total Wyoming	1,445	48	1,539	1,586	16,427	17,695
Total United States	68,174	2,272	72,696	78,758	829,280	926,406

*Includes Alaska and Utah.

STOCKS OF CRUDE PETROLEUM

(Thousands of barrels of 42 U. S. gallons)

EAST OF CALIFORNIA:	Nov. 30, 1930	Oct. 31, 1930	Nov. 30, 1929
At refineries by location:			
East Coast: Domestic	11,337	10,759	8,695
Foreign*	3,111	3,423	3,313
Appalachian	2,595	2,628	2,952
Indiana, Illinois, Kentucky, Michigan, etc.	2,738	3,053	3,199
Oklahoma, Kansas, and Missouri	5,078	5,239	5,372
Texas: Inland	1,414	1,566	1,702
Gulf Coast: Domestic	8,794	9,688	10,519
Foreign*	309	324	610
Arkansas and Inland Louisiana	805	968	1,046
Louisiana Gulf Coast: Domestic	5,834	5,803	3,910
Foreign	732	855	1,535
Rocky Mountain	1,679	1,726	1,512
Total	44,426	46,032	44,365
At refineries by origin:			
Pennsylvania grade	2,292	2,421	(†)
Other Appalachian (inc. Kentucky)	921	919	(†)
Lima-N.E. Indiana-Michigan	127	203	(†)
Illinois-S.W. Indiana	121	87	(†)
North Louisiana and Arkansas	5,085	5,182	(†)
West Texas and S.E. New Mexico	5,412	5,010	(†)
Oklahoma, Kansas, North Texas, etc.	17,235	18,074	(†)
Gulf Coast: Grade A	3,953	4,137	(†)
Grade B	3,449	3,671	(†)
Rocky Mountain	1,674	1,726	(†)
California	....	5	(†)
Foreign*	4,152	4,602	5,458
Total	44,426	46,032	44,365
Pipe line and tank farm:			
Pennsylvania grade	5,618	5,629	4,475
Other Appalachian (inc. Kentucky)	905	950	690
Lima-N.E. Indiana-Michigan	1,236	1,407	477
Illinois-S.W. Indiana	10,380	10,188	10,371
North Louisiana and Arkansas	20,157	20,300	21,460
West Texas and S.E. New Mexico	45,930	45,870	253,195
Oklahoma, Kansas, North Texas, etc.	195,611	195,679	
Gulf Coast: Grade A	6,664	6,338	20,460
Grade B	11,892	12,268	
Rocky Mountain	24,696	24,401	24,659
Total	323,089	323,030	335,787
Total refinery, pipe line and tank farm	367,515	369,062	380,152
Producers	6,450	6,400	6,231
Total crude east of California	373,965	375,462	386,383
CLASSIFICATION BY GRAVITY (approx.):			
East of California: Light	333,766	335,208	341,204
Heavy	33,749	33,854	38,948
California: Light	40,652	40,738	42,005
Heavy (including fuel)	103,553	102,643	111,449

*Includes importers' stocks. †Not available.

NUMBER OF WELLS COMPLETED IN THE UNITED STATES*

	Nov., 1930	Oct., 1930	Nov., 1929	Jan.-Nov., 1930	Jan.-Nov., 1929
Oil	669	866	1,407	13,050	14,512
Gas	231	282	300	2,610	2,565
Dry	492	549	743	6,221	7,304
Total	1,382	1,697	2,450	19,881	24,381

*From The Oil and Gas Journal and California office of American Petroleum Institute.

SHIPMENTS FROM CALIFORNIA TO EASTERN PORTS IN UNITED STATES*

(Thousands of barrels of 42 U. S. gallons)

	Nov., 1930	Oct., 1930	Nov., 1929	Jan.-Nov., 1930	Jan.-Nov., 1929
Crude oil:	....	....	....	....	1,299
Refined products:	1,880	2,389	2,518	23,071	25,192
Gasoline	1,323	1,775	2,131	18,684	21,507
Kerosene	18	....	50	198	176
Gas oil	520	605	290	3,799	3,068
Diesel oil	....	....	42	208	140
Fuel oil	5	3	3	35	104
Lubricants	12	4	....	128	171
Asphalt	2	2	2	19	26

*Compiled by E. T. Knudsen of the San Francisco office of the Bureau of Mines.

(Continued on Next Page)

RUNS TO STILLS AND OUTPUT OF REFINERIES, NOVEMBER, 1930
(Thousands of barrels of 42 U. S. gallons)

	Crude oil			Unfinished oils rerun	Natural gasoline	Total input
	Domestic	Foreign	Total			
East Coast	8,948	4,679	13,627	495	215	14,337
Appalachian	2,343	....	2,343	254	50	2,647
Ind., Ill., Ky., etc.	7,655	....	7,655	384	295	8,334
Okla., Kans., Mo.	8,325	....	8,325	281	459	9,065
Texas	16,231	36	16,267	887	1,053	18,207
Louisiana and Arkansas	4,570	129	4,699	567	273	5,539
Rocky Mountain	1,494	....	1,494	205	122	1,821
California	15,900	....	15,900	39	*1,548	17,487
Total United States	65,466	4,844	70,310	3,112	4,015	77,437
Texas Gulf Coast	11,691	36	11,727	588	796	13,111
Louisiana Gulf Coast	3,017	129	3,146	155	167	3,468

	Gas oil and fuel oils						Wax (Thousands of pounds)
	Gasoline	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Total	Lubricants	
East Coast	5,059	550	1,600	4,845	6,445	731	9,480
Appalachian	1,201	297	161	255	416	356	6,720
Ind., Ill., Ky., etc.	4,276	282	765	1,302	2,067	332	4,480
Okla., Kans., Mo.	4,855	587	792	1,783	2,575	198	2,520
Texas	7,919	1,002	1,627	4,914	6,541	533	5,320
Louisiana and Arkansas	2,302	447	406	1,295	1,701	57	4,760
Rocky Mountain	864	70	55	318	373	39	1,960
California	6,837	355	1,776	7,140	8,916	163	....
Total United States	33,313	3,590	7,182	21,852	29,034	2,409	35,240
Texas Gulf Coast	5,696	824	1,208	2,999	4,207	511	5,320
Louisiana Gulf Coast	1,641	390	231	777	1,008	41	4,760

	Other finished products				Unfinished products	Shortage
	Coke (tons)	Asphalt (tons)	Road oil	Miscellaneous	Total	
East Coast	10,400	91,300	19	35	54	387	520
Appalachian	2,700	4,700	..	36	36	163	114
Ind., Ill., Ky., etc.	50,400	48,900	18	381	399	265	171
Okla., Kans., Mo.	24,700	2,700	11	79	90	197	413
Texas	48,400	13,100	4	9	13	997	864
La. and Ark.	11,400	20,000	..	125	125	542	180
Rocky Mountain	10,000	.....	16	17	33	317	67
California	100	35,800	80	81	161	379	478
Total United States	158,100	216,500	148	763	911	3,247	2,807
Texas Gulf Coast	40,400	13,100	4	1	5	932	639
Louisiana Gulf Coast	11,200	12,200	..	118	118	68	61

*Includes 78,000 bbls. run through pipe lines.

COMPARATIVE ANALYSES
(Thousands of barrels of 42 U.S. gallons)

	Nov., 1930		Oct.,	Nov.,	Jan.-Nov.,	Jan.-Nov.,
	Total	Dy.av.	1930	1929	1930	1929
CRUDE PETROLEUM:						
Runs to stills: Domestic	65,466	2,182	68,742	75,363	799,726	836,711
Foreign	4,844	162	5,273	5,698	56,140	70,334
Total	70,310	2,344	74,016	81,061	855,866	907,045
Imports	4,467	149	5,061	4,554	57,402	73,047
Exports	1,765	59	2,167	2,579	22,367	24,312
GASOLINE:						
Production*	33,616	1,120	37,400	37,700	407,182	401,659
Imports	1,079	36	1,620	984	15,963	8,118
Exports†	3,690	123	6,323	4,219	61,235	56,054
Stocks‡	38,705	....	38,684	37,997	38,705	37,997
Domestic demand	30,984	1,033	32,267	31,584	366,466	348,813
KEROSENE:						
Production	3,590	120	3,876	4,776	45,633	51,144
Imports	.....	....	1	34	163	188
Exports	1,002	33	1,416	1,319	15,678	18,341
Stocks	7,379	....	7,633	8,902	7,379	8,902
Domestic demand	2,841	95	2,599	3,104	31,834	33,090
GAS OIL AND DISTILLATE FUELS:						
Production	7,182	239	7,167	.....	74,517	.....
Stocks	18,444	....	19,258	.....	18,444	.....
RESIDUAL FUEL OILS:						
Production	21,852	729	22,651	.....	268,941	.....
Stocks§	21,983	....	22,035	.....	21,983	.....
GAS OIL AND FUEL OIL:						
Production	29,034	968	29,818	36,134	343,458	412,598
Imports	1,712	57	2,165	2,297	23,784	18,894
Exports	1,959	65	3,032	4,098	33,340	35,757
Stocks	40,427	....	41,293	37,753	40,427	37,753
LUBRICANTS:						
Production	2,409	80	2,546	2,555	31,692	31,594
Imports	2	....	2	3	24	37
Exports	804	27	734	603	9,319	9,961
Stocks	10,536	....	10,502	8,117	10,536	8,117
Domestic demand	1,573	52	1,569	1,859	20,120	21,893
WAX (thousands of pounds):						
Production	35,240	1,175	38,080	50,775	510,960	580,970
Imports	3,977	133	3,182	2,609	27,122	37,000
Exports	23,413	780	31,727	26,674	265,052	292,926
Stocks	237,027	....	240,060	187,247	237,027	187,247
Domestic demand	18,837	628	18,415	30,190	225,595	250,351
COKE (short tons):						
Production	158,100	5,270	177,300	155,000	1,768,600	1,649,700
Stocks	1,064,000	....	1,044,900	744,300	1,064,000	744,300
ASPHALT (short tons):						
Production	216,500	7,217	306,000	247,600	3,036,900	3,281,300
Stocks	294,700	....	267,100	234,000	294,700	234,000
ROAD OIL:						
Production	148	5	248	692	4,951	9,225
Stocks	229	....	287		229	
MISCELLANEOUS:						
Production	763	25	724	835	7,284	835
Stocks	501	....	591		501	

*Includes benzol production and natural gasoline used elsewhere than at refineries east of California. †Includes benzol. ‡Includes motor fuel blends held at natural gasoline plants. §East of California.

RECORD OF WELLS FOR IMPORTANT FLUSH FIELDS, NOVEMBER, 1930*

	Completions			Total initial production (bbls.)	Average initial production (bbls.)	Drilling Nov. 30
	Oil	Gas	Dry			
Texas	174	23	204	129,100	700	897
Darst Creek	13	..	1	8,700	700	14
West Texas	26	..	12	12,600	500	162
California	76	..	11	53,000	700	419
Long Beach	9	..	1	8,600	1,000	70
Playa Del Rey	50	..	3	22,900	500	84
Santa Fe Springs	1	..		100	100	....
Oklahoma	102	33	70	388,100	3,800	541
Oklahoma County	35	1	3	324,100	9,500	175
Pottawatomie County	.....	29	..	4	47,400	1,600	43
Seminole County							
New Mexico	23	1	..	223,600	9,700	76
Lea County (Hobbs)	23	..	..	223,600	9,700	30
Other states	284	174	207	42,000	100	1,395
Total United States	659	231	492	835,800	1,300	3,328

*From The Oil and Gas Journal and California office of American Petroleum Institute.

STOCKS HELD BY REFINING COMPANIES, NOVEMBER 30, 1930
(Thousands of barrels of 42 U. S. gallons)

			Gas oil and fuel oil		
	Gasoline	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Total
East Coast	5,560	1,595	5,060	5,635	10,695
Appalachian	996	173	574	649	1,223
Ind., Ill., Ky., etc.	4,330	595	1,652	2,189	3,841
Okla., Kans., Mo.	2,908	697	2,191	3,140	5,331
Texas	6,573	1,577	3,533	7,773	11,306
Louisiana and Arkansas	1,241	764	640	1,604	2,244
Rocky Mountain	1,615	269	125	993	1,118
California	15,469	1,709	4,669	*....	4,669
Total	38,692	7,379	18,444	21,983	40,427
Texas Gulf Coast	4,786	1,469	3,154	4,808	7,962
Louisiana Gulf Coast	965	743	449	980	1,429

	Wax (thousands of pounds)				Coke (tons)
	Lubricants	Crude scale	Refined	Total	
East Coast	3,321	39,018	17,882	56,900	51,500
Appalachian	1,336	23,782	3,545	27,327	6,700
Ind., Ill., Ky., etc.	1,140	18,104	2,860	20,964	127,400
Okla., Kans., Mo.	797	1,602	1,946	3,548	85,700
Texas	2,396	1,117	9,357	10,474	502,200
Louisiana and Arkansas	169	90,579	1,808	92,387	41,900
Rocky Mountain	200	23,920	1,507	25,427	129,000
California	1,177	.....	.....	.....	119,600
Total	10,536	198,122	38,905	236,027	1,064,000
Texas Gulf Coast	2,293	937	9,357	10,294	458,800
Louisiana Gulf Coast	152	90,579	1,808	92,387	41,700

	Other finished products				Unfinished oils		
	Asphalt (tons)	Road oil	Miscellaneous	Total	Natural gasoline	Other	Total
East Coast	118,100	28	29	57	13	9,489	9,502
Appalachian	7,700	..	73	73	12	1,354	1,366
Ind., Ill., Ky., etc.	64,500	23	217	240	48	4,693	4,741
Okla., Kans., Mo.	4,900	33	28	61	14	3,122	3,136
Texas	7,100	11	11	22	281	14,504	14,785
Louisiana and Arkansas	39,600	..	6	6	15	3,264	3,279
Rocky Mountain	3,800	45	24	69	2	1,850	1,852
California	49,000	89	113	202	1,399	†8,309	9,708
Total	294,700	229	501	730	1,784	46,585	48,369
Texas Gulf Coast	7,000	11	4	15	261	12,928	13,189
Louisiana Gulf Coast	35,900	..	5	5	2	2,491	2,493

*Included with heavy crude. †Includes 2,487,000 bbls. tops.

PRODUCTION OF CRUDE PETROLEUM BY FIELDS
(Thousands of barrels of 42 U. S. gallons)

	Nov., 1930		Oct.,	Nov.,	Jan.-Nov.,	Jan.-Nov.,
FIELD:	Total	Daily av.	1930	1929*	1930	1929*
Appalachian:						
Pennsylvania grade	1,741	58	1,990	2,027	22,714	21,601
Other (inc. Kentucky)	686	23	802	909	9,006	9,189
Lima-N.E. Ind.-Mich.	354	12	340	575	4,508	5,556
Ill.-S.W. Ind.	442	14	495	584	6,167	6,669
Mid-Continent:						
N. La. and Ark.	2,779	93	2,920	2,920	31,490	34,971
W. Tex.-S.E. N. Mex.	9,298	310	9,638	10,899	109,627	123,691
Other (Okla., Kans., N. Tex., etc.)	27,522	917	30,660	32,091	350,042	378,040
Gulf Coast:						
Grade A	2,255	75	2,467	5,301	29,495	51,740
Grade B	3,104	104	3,170		34,540	
Rocky Mountain	1,885	63	1,970	2,118	21,379	24,126
California	18,109	603	18,244	21,334	210,312	270,824
Total	68,174	2,272	72,696	78,758	829,280	926,406
CLASSIFICATION BY GRAVITY (approx.):						
Light crude	60,421	2,014	64,490	70,005	733,137	833,585
Heavy crude	7,753	258	8,206	8,753	96,143	92,821

*Includes Alaska and Utah.

PRODUCTION OF MOTOR FUEL
(Thousands of barrels of 42 U. S. gallons)

Gasoline produced at refineries:	Nov., 1930		Oct.,	Nov.,	Jan.-Nov.,	Jan.-Nov.,
	Total	Dly. av.	1930	1929	1930	1929
Straightrun	16,310	544	18,298	20,266	208,966	225,385
Cracked	12,988	433	14,427	13,163	150,356	130,096
Natural gasoline:						
Blended at refineries	3,937	131	4,275	3,728	41,471	39,943
Run through pipe lines*..	78	2	78	203	1,596	2,251
Total	33,313	1,110	37,078	37,360	402,389	397,675
Other natural gasoline:						
Blended at plants‡	16	1	18	45	237	617
Sold direct to jobbers	100	3	100	50	2,050	550
Benzol produced‡	187	6	204	245	2,506	2,817
Total motor fuel	33,616	1,120	37,400	37,700	407,182	401,659

*To refineries in California. †East of California. ‡Estimated with production of by-product coke as a basis.

PRODUCTION AND DISTRIBUTION OF NATURAL GASOLINE
(Thousands of barrels of 42 U. S. gallons)

	Nov., 1930		Oct., 1930		Jan.-Nov., 1930	
	Total	Dly. av.	Total	Dly. av.	Total	Dly. av.
Production	4,238	141	4,326	140	47,538	142
Decrease in all stocks	....	....	215	7	....	....
Total	4,238	141	4,541	147	47,538	142
Blended at refineries	3,937	131	4,275	138	41,471	124
Run through pipe lines in California	78	2	78	3	1,596	5
Blended at plants*	16	1	18	1	237	1
Sold direct to jobbers	100	3	100	3	2,050	6
Increase in all stocks	24	1	....	....	91	....
Balance	83	3	70	2	2,093	6
Total	4,238	141	4,541	147	47,538	142

*East of California.

GASOLINE PRODUCTION BY THE VARIOUS METHODS, NOVEMBER, 1930
(Thousands of barrels of 42 U. S. gallons)

	Straightrun		Cracked		Natural gasoline		Grand
	Total	%	Total	%	Total	%	total
East Coast	2,429	48	2,415	48	215	4	5,059
Appalachian	713	59	438	37	50	4	1,201
Ind., Ill., Ky., etc.	1,784	42	2,197	51	295	7	4,276
Okla., Kans., Mo.	2,632	54	1,764	36	459	10	4,855
Texas	3,495	44	3,371	43	1,053	13	7,919
Louisiana and Arkansas	795	34	1,234	54	273	12	2,302
Rocky Mountain	381	44	361	42	122	14	864
California	4,081	60	1,208	18	1,548	22	6,837
Total	16,310	49	12,988	39	4,015	12	33,313
Texas Gulf Coast	2,108	37	2,792	49	796	14	5,696
Louisiana Gulf Coast	575	35	899	55	167	10	1,641

CLASSIFIED WANTS

Create and Build Sales

RATES

The rates for Classified Advertisements are 35 cents a line for the first insertion and 25 cents a line for each additional insertion. Six words usually constitute a line. The following table will enable you to figure the cost of your advertisement:

	time 1	times 2	times 3	times 4
3 lines	1.05	1.80	2.55	3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
8 lines	2.80	4.80	6.80	8.80
9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

Compute white space at the above rates.

Mail your Classified Advertisement to

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

FOR SALE—EQUIPMENT

LUCKY NUMBER 1931

FOR SALE—Diesel Engine, 120 HP. 4-cycle 9x12, Atlas Imperial. Tank Cars four 10,000 Gallon. A. V. Konsberg, 111 West Jackson Blvd., Chicago.

TANK CARS

For lease 8,000 to 10,000-gallon cars. Immediate delivery. Write, wire or phone.
HYMAN-MICHAELS TANK LINE, Inc.
20 North Wacker Drive Bldg., Chicago, Ill.

FOR SALE—Clark 190 H.P. twin; Clark 90 H.P. singles; compressor cylinders for Clark engine 8½, 15, 16, 17"x 20". Bessemer cylinders, 6¼"x20". Forrest E. Gilmore Co., 414 Beacon Life Bldg., Tulsa, Okla. Phone 4-5101.

ATTENTION OIL MEN: We recently opened a pipe yard in Henderson, Texas. Stock of pipe consists of 1" to 15½" casing. Also have several complete rotary rigs for immediate shipment. Louisiana Iron & Supply Co., Shreveport, La., Phone 2-6385; Henderson, Texas, Phone 180.

FOR SALE—MACHINE TOOLS
Bargains in used and rebuilt lathes, shapers, drill presses, pipe machines, milling machines. Five hundred machines in stock. Terms to responsible parties. Write for catalog.
Cincinnati Machinery & Supply Co.
26 West Second St., Cincinnati, Ohio.

FOR SALE—2 No. 12 and 2 No. 11 Sweetland Filter Presses, some with monel leaves; 5 Sweetland Filter Presses, No. 9, No. 7, No. 2; 6 No. 4 Vallez Filters; 2 150 HP Fitzgibbons Boilers; 2 Skinner Unaflow Engines, direct connected to 2 200 KW Crocker Wheeler Generators, 125 to 250 volts. Installed three years; Miscellaneous Compressors, Storage Tanks, Pumps. Consolidated Products Company, Inc., 17-20 Park Row, New York City. Barclay 0600.

FOR SALE: Gas powered, late model Sullivan Diamond Core Drill. Write Box E-386, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Landis Pipe Machine, 6" late model. Give full description and price. Address Twin City Steel Mfg. Co., 2648 Thirty-fourth Ave., S., Minneapolis, Minn.

100 OIL and gas engines for sale. Superior, Reid, Franklin, Foos, Black Bear and Primm 15 to 80 H.P. in fine order; new models, low prices. Edward A. Schambs, Jr., Box 868, Wichita Falls, Tex. Telephone 6356.

BUSINESS OPPORTUNITIES

HAVE CASH FOR wholesale gasoline business. Box 374, Electra, Texas.

BUSINESS OPPORTUNITIES

CURTIS BROKERAGE COMPANY
dealers in
Used Oil Field Equipment
for
Drilling, Production, Gasoline and Pipe Line Departments.
List your surplus with us.
And advise us of your needs.
S. O. Curtis, P. O. Box 1214, Seminole, Oklahoma.

ADVICE: For one dollar I will give for six months personal advice on Mid-Continent lease and royalty plays if you contemplate investment. M. Kennedy, 2241 St. Louis Ave., St. Louis, Mo.

RESPONSIBLE PEOPLE WILL FINANCE Gas Line with private capital. No public financing necessary. State fully first letter giving total open flow, heat units, number acres drilled and proven, producing formation, rock pressure, drilling costs, price of gas and available market. Maps appreciated. Insure attention by stating your case fully. Address 821 Michigan Trust Building, Grand Rapids, Michigan.

WANTED A PARTY with $2,500 for 1/3rd interest in leases and well to finish the well now at 3,560 ft. near Mt. Pleasant, Mich. Paul Schulte, 911 South Oak Park Ave., Oak Park, Ill.

HAVE SOME GOOD OIL and gas producing properties for merger; value over one million dollars. Address J. G. Lucas, 325 Ricou-Brewster Bldg., Shreveport, La.

REFINANCE ON SOUND BASIS
If you have a good sound business and strictly high class personnel, we can supply producing oil properties with a large yearly income to enable you to expand quickly and safely. Our commercial ratings are the highest. State your needs and plans fully. Correspondence held confidential. P. O. Box 1897, Tulsa, Oklahoma.

WE WILL CONTRACT to do Diamond Core Drilling to any required depth anywhere. Core Drill Exploration Co., 319 South Xanthus Street, Tulsa, Oklahoma.

JOBERT OIL AND DRILLING COMPANY specializes in drilling propositions and producing and non-producing royalties. 319 Tradesmen's Bank Building, Oklahoma City, Okla.

OIL located before drilling. Geophysical method. Toggodometer Instrument; take pay in oil. No oil, no pay, except traveling and testing expenses, 95 per cent accuracy. O. P. Coffin, Caddo, Tex.

WILL SELL A QUANTITY of Oklahoma City crude oil; delivery daily F.O.B. cars. Advise your requirements.
WORTHEN PETROLEUM COMPANY,
Oklahoma City, Okla.
Tel. 2-3666.

BUSINESS OPPORTUNITIES

COMPLETE REPORT and valuation made on producing properties—royalty and other interests in Mid-Continent field by practical and experienced man. Small or large interests reported on. Personal inspection made. Fred W. Eastman, 1302 Philtower Bldg., Tulsa, Okla.

$35.00 buys deed part oil in well now drilling between big oil gushers in City Field. Joe Milam, Dept. O. J., Oklahoma City, Okla.

WOULD like to make reliable connection with parties able to dispose of producing and non-producing royalties in the Mid-Continent field. References exchanged Address P. O. Box 351, Okla. City, Okla.

GEOPHYSICAL METHODS applied before drilling might help. Particulars. Write Box E-376, The Oil and Gas Journal, Tulsa, Okla.

BIG PROFITS IN SHALLOW GAS
Successful operator has 5,000 proven acres; getting franchises on adjoining towns; wonderful ground-floor opportunity; financial co-operation desired. 311 Huron Bldg., Kansas City, Kans. Drexel 3323.

$12.50 BUYS deed part oil 2 oil royalties City Pool. Ed Milam, Dept. S-10, Oklahoma City, Okla.

EXTREME LOW DRILLING COSTS and gusher (up to 5,000 bbls.) production make Williamson County, Texas, serpentine plugs the best venture. $4,000 to $8,000. Covers entire cost of blocking and the drilling of the well Inquiry solicited.
NICOLLE & NICOLLE
Geologically Selected Drilling Blocks
P. O. Drawer 1720 Fort Worth, Texas.

PETRO-FACTS
A service established to furnish authoritative information to investors, unit holders, royalty buyers, on the financial status, field operations, production, refining, leasing and royalty activities of all companies engaged in the petroleum business. Nominal fee. Address Petro-Facts, P. O. Box 351, Oklahoma City, Okla.

OIL INDUSTRY PRINTING

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Old-Press, 215 East Third St., Tulsa, Okla.

INCORPORATIONS

DELAWARE incorporator. Charters fees small, forms. Charles G. Guyer, 901 Market St., Wilmington, Del.

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

HELP WANTED

WANTED: Salesmen with cars. Exclusive territory and sales helps to willing workers. Boiler and Engine Room Specialties. Liberal commissions. Able Supply Company, 2915 Rusk Ave., Houston, Tex.

REFINERY SUPERINTENDENT AND CHEMIST
Oil refining and producing company in Oklahoma, having 15,000 barrels capacity, desires an assistant superintendent having had broad experience. Also want experienced and resourceful chemist for experimental laboratory work. Give full data in first letter. Answer Box E-390, The Oil and Gas Journal, Tulsa, Okla.

POSITIONS WANTED

CORE DRILLER WANTS new contract. Depth to 1,200 ft. Best of references. T. H. Chevalier, Campbell, Nebraska, Box 454.

EXPERIENCED torsion balance operator. Excellent references. Wants geophysical work. Married. Write Box E-374, The Oil and Gas Journal, Tulsa, Okla.

REFINEY ENGINEER — SUPERINTENDENT—SALES ENGINEER
Graduate engineer, 10 years' experience as refinery engineer, superintendent, manager. Experienced in all branches of petroleum industry. Capable designer, operator, executive. Gets splendid co-operation from men. Sales experience. Experienced in modernizing old plants, making them produce. Thorough knowledge of several cracking plants. At present employed. Best references. Foreign work acceptable. Write Box E-379, The Oil and Gas Journal, Tulsa, Okla.

REFINERY AUDITOR, age 32, thoroughly experienced, desires position. Capable supervising field or plant operations, excellent record. Best of references. L. M. Brown, 1520 Elm St., Little Rock, Ark.

SUPERINTENDENT of construction or operation of small refinery now available. Can get results with minimum cost. Had years of experience in the business. Write Box E-385, The Oil and Gas Journal, Tulsa, Okla.

GRADUATE ENGINEER, particularly qualified for preparation of income tax reports and oil estimates for all purposes. Experienced in charting business statistics and in making special reports for executives. Address Box E-387, The Oil and Gas Journal, Tulsa, Okla.

MAILING LIST

MAILING lists of all kinds for the oil industry. Write us. Oil Industry Mailing List Co., Box 3103, Tulsa, Okla.

LEASES—PRODUCTION

OIL LEASES AND ROYALTIES for sale in Wise County, Texas. Four wells drilling. From one dollar to ten dollars per acre. Sam Pavillard, Decatur, Texas. Route 2.

OIL AND GAS LEASE FOR SALE
The Southwest quarter of Sec. 3, Twp. 3, Range 14, Cimeron, Meridian in the proven gas field of Texas County, Oklahoma. Joel Bailey, 310 Mercantile Bank Bldg., Evansville, Indiana.

OIL LEASES AND ROYALTIES
Bought and Sold.
In the Hobbs Pool,
Lea County, N. Mex.
A. L. Gurley, Clovis, N. Mex.
P. O. Box 211 Phone 392.

12,500-ACRE structural oil lease for development, in Matagorda County, Texas. Much surface indications for uplift. Also hold option on proven sulphur mine in Mexico near the Texas border. Charles Morris, Palacious, Texas.

NEW MEXICO leases; Lea, Eddy and Chaves Counties. H. T. Orcutt, 1016 Colcord Bldg., Oklahoma City, Okla.

GET A 10, 20 or 40-acre lease in the big play along new fault in Texas, being drilled with remarkable success. Tracts right in the active play $2 acre; ownership plats.——W. J. Dobbs, 824 Wilson Bldg., Dallas, Texas.

ANNUAL REVIEW NUMBER

The annual statistical number will be published on January 29. This issue is looked forward to each year by men interested in the petroleum industry as it contains a complete resume of activities in the oil industry for the past twelve months.

This issue offers an excellent means to place your classified advertisement before men in the oil industry who are interested in your proposition.

Send in your advertisement today and specify to have it run in our annual number. The rates are thirty-five cents a line for the first insertion and twenty-five cents a line for each additional insertion. Six words usually constitute a line.

The OIL and GAS JOURNAL
TULSA, OKLA.

CLASSIFIED WANTS

Read by Oil Men Everywhere

LEASES—PRODUCTION

MINERAL DEEDS—LEASES
Mineral deeds under major company leases or accompanied by leases. Stevens-Morton County area, Ness-Trego-Gove area in Kansas and Beaver-Texas Counties, Oklahoma area.
J. W. SAIN
310 Brown Building
Wichita, Kansas.

FOR SALE: 5,000 acres oil and gas leases on structure, settled production. Royalties and mineral rights on large tract. Complete data furnished on application. W. P. Harley, Bowling Green, Ky.

RUSK COUNTY OIL LEASES and royalties; also good business locations. East Texas Inv. Co., Henderson, Texas, Box 453.

OIL SHOW in Wurtz Well, SW. Ector Co. Lease & Royalty bargains near. Anderson, Linz Bldg., Dallas, Texas.

FOR SALE—Lea County, New Mexico, oil leases and deeded royalty, producing royalty in gusher wells and nonproducing royalty under Major Oil Company leases ahead of development. Also well located five-year oil and gas leases. Write for information and maps. Monarch Investment Co., Roswell, New Mexico.

TWO FOR ONE bonus money on proven leases in Oklahoma City Field. Money paid direct from pipe line company. Write for particulars. George Fisher and Son., 607-8 Cotton Exchange Bldg., Oklahoma City, Okla.

FOR SALE—Drilling Blocks, Oil Leases, Royalties. Lands in fee. Near Production. Box 78, Hope, Arkansas.

7,500-ACRE block, $1.50 acre, Central Franklin County, Texas. No drilling obligation. C. E. Cowan, Mt. Vernon, Texas.

FOR SALE: 40-acre oil lease, Sec. 22, Block MM, Howard-Andrews area, Crockett County, $10 per acre. Will consider drilling test. M. H. Chalumeau, 146 West 95th St., New York City, N. Y.

TWO BLOCKS OF LEASES of 4 and 5 thousand acres in East Texas for drilling contract. Splendid geology. Write Box E-388, The Oil and Gas Journal, Tulsa, Okla.

ROYALTIES—PRODUCTION

LEA AND ROOSEVELT COUNTIES, NEW MEXICO, 1/64th interest mineral deed under Major Oil Co. lease, 80 acres. Price 15c per acre. R. G. Barton, Avalon Hotel, Clovis, N. Mex.

$12.50 BUYS ROYALTY INTEREST in 480 acres on structure Morgan County, Colo. Block being drilled by I. T. I. O. Co. E. L. Michael, Arvada, Colo.

DEEDED OIL ROYALTY interests, spread covers two tracts Rusk County new field, sold on small down payments. Guy J. Stumpff, Consulting Engineer, Van, Texas.

PETROLEUM ROYALTIES
— WHOLESALE —
TO
Dealers and Sales Organizations

TEN FULL ROYALTY ACRES
Under
TEN DIFFERENT MAJOR LEASES

TOTAL COST $90.00

Price includes Sales Kit, Promotion Oil field map and descriptive matter, all ready for Sales Organization.

We are specialists in all classes of Producing and Non-producing Oil and Gas Royalties under major company leaseholdings throughout the Mid-Continent Field, and are in a position to supply diversified Royalty spreads or interests in "hot" plays to fill your requirements.

Original geological surveys, engineering reports, taxation analyses, valuation reports, Mid-Continent detail maps, supplied by our Geological and Engineering Departments at nominal cost.

MID-CONTINENT MINERAL RIGHTS CORPORATION
Mayo Building,
Tulsa Oklahoma

ROYALTIES—PRODUCTION

OKLAHOMA OIL ROYALTIES
Royalty Sales Company
Suite 523 105 N. Clark St. Chicago.

ROYALTIES UNDER GAINES COUNTY, Texas, drilling well; also under well now starting Ritz Pool, Shell Block, McPherson County, Kansas. Also many others. Lists and maps. James R. Haynes, Grantville, Kansas.

HAVE well located Mid-Continent major company leases near major company wells now drilling. Will exchange in 40' and 80' for like acreage near drilling wells.

Waite D. Law,
1106 Jas. Oviatt Bldg.,
Los Angeles, Calif.

$12.50 BUYS DEED PART oil 2 Oil Royalties City Pool. Ed Milam, Dept. Y, Oklahoma City, Okla.

ROYALTY BARGAINS in Oklahoma, Lincoln and Pott Counties for sale. American Inv. Co., 201 Elks Bldg., Oklahoma City, Okla.

ROYALTIES ahead of drilling wells, major company, core-drilled structures. Write William Hallam, Jr., 214 Patterson Bldg., Denver, Colo.

BEDROCK ROYALTY PRICES ahead of drilling on major company blocks. $6 per square mile. Perpetual deeds and title warranty. Clearly stated and understandable interests. See maps and bulletins. R. R. Fisk, Box 1214-B, Wichita Falls, Texas.

MID-CONTINENT OIL ROYALTIES at reasonable prices and with assurance of safety. Past record "Chicago dealer since 1920" indicates quick return of principal and handsome profit. Write me. J. A. Wolf, 208 South LaSalle St., Chicago, Ill.

J. G. REAVES & COMPANY

Dealing in royalty interests underlying producing oil properties and undeveloped lease-holdings of the major oil companies in all Texas and Louisiana oil fields. Inquiries invited.
Milam Building,
SAN ANTONIO, TEXAS.
Reaves Building,
TYLER, TEXAS.

ROYALTIES—PRODUCTION

ROYALTIES IN HOT SPOTS, Kansas, Oklahoma and Texas, under drilling wells, offsets, core drilled structures, under Major Co. Blocks, for the small or large buyer. Fast, reliable and dependable service for investors and brokers, in United States and Canada. Special offerings in the Ritz high gravity Major pool in McPherson County, Kansas, on Shell Block, under drilling wells, under drilling well Greenwich area Sedgwick County, Kansas, Shell block. Gaines County, Texas, under the Texas Pacific Coal & Oil Co. well now drilling, northeast of Hobbs pool, on 2,503 acres. Many others. Send today for latest list and maps. James R. Haynes, Grantville, Kansas.

BUY CHEAP ROYALTIES in Western Oklahoma ahead of development. George F. Fisher and Son, 607 Cotton Exchange Building, Oklahoma City, Okla.

KANSAS ROYALTY: Interest under four drilling wells, Ritz Pool, Shell Block. Prices reasonable. Maps free. Harry Haynes, Grantville, Kansas.

HEADQUARTERS
FOR ROYALTIES

We maintain a complete organization in New York, and in Tulsa (with reliable connections in other oil field centers) for the handling of all kinds of Royalty transactions—buying, selling, investigating.

Your requirements will be given our careful and considerate attention.

We are members of the Mid-Continent Royalty Owner's Association, and we enthusiastically support the Association's code of ethics.

THE LAND & ROYALTY CORPORATION

37th Floor CHANIN TOWER,
NEW YORK

Postal Telegraph Wire in our Office.
Telegraph Address: "CDX NEW YORK"

ROYALTIES—PRODUCTION

SHALE GAS ACREAGE
For sale proven shale and gas 2,500 acres Labette County, Kansas. Also ¼ to ½ interest in well N. E. Schurr Pool, Rice County, Kansas on core drilled structure. Also royalty under well and offset.
G. W. MOORE,
Independence, Kansas.

FOR SALE—Lea County, New Mexico, deeded oil royalties located in the Hobbs Pool and other active areas; also 5-year state oil and gas leases. Huge profits possible; easy terms. Monarch Invt. Co., Roswell, N. M.

WILL BUY PRODUCING royalties priced right; give description, price, production, details. Box 1359, Tulsa, Okla.

WANT ROYALTY BARGAINS
Producing and nonproducing. Submit your proposition in writing only. Give full details; bargains only. No brokers.
NEBRASKA ROYALTY CO.,
Box 5. South Omaha, Neb.

FOR SALE—Producing and non-producing royalties, good geology under major companies blocks in Southwest Texas.
C. H. BAILEY
1712 Milam Bldg.,
San Antonio, Texas

MONEY RAISING

DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 2443 N. W. 12th, Oklahoma City

CAPITAL—Call or send facts about high grade oil projects to James E. Miller Co., 207½ East Third St., Tulsa, Okla.

JOHN MORRIS, 3608 WARREN ST., PHILADELPHIA, PA., invites full facts first letter from capable parties planning negotiation of reasonable capital support for undertakings distinctly of higher order. Use registered mail, safeguard data.

FINANCE YOUR OWN project with shares bonded. Quickest, most satisfactory known method of raising capital. Information free. Bankers Interstate Security, Electric Bldg., Denver, Colo.

CORPORATE organizing and promoting of meritorious enterprises; reorganizations and new financing.
The BROOKWORTH CO., INC.
110 East 42nd St., New York, N. Y.

IF YOU WANT your securities or proposition intelligently submitted to underwriting and security selling houses in New York, write W. W. Hines, Room 803, 150 Broadway, New York City.

CAPITAL: An experienced dependable broker will aid in financing projects of merit. Amster Leonard, East Orange, N. J.

WANTED

WANTED FOR CASH
Good used rotary drilling outfits complete, all sizes seamless pipe, pumping gas engines and electric motors. Must be in good condition and priced right. Give full description, location and lowest price. P. O. Box 271, Wichita, Kans.

PATENT ATTORNEYS

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form.
Evidence of Conception
Bulletin "How to Establish Your Rights" and complete information free.
LANCASTER, ALLWINE & ROMMEL
240 Ouray Bldg. Washington, D. C.

FOR SALE—MAPS

OIL DEVELOPMENT maps, any county in Oklahoma, 75 cents each; lease block and detail maps. Write for map list. Lindsay Map Co., Franklin Bldg., Oklahoma City, Okla.

SOUTHEAST NEW MEXICO
MAPS
Send for list.
THE M. H. HUNTER CO.
Roswell, N. Mex.

STATIONERY

ENGRAVED STATIONERY — Genuine Steel and Copper plate work. Every description. Estimates. Charles F. Krause, 226 South Wabash Ave., Chicago, Ill.

Used Equipment

At this time of the year after you have made your yearly inventory, no doubt you have some good used equipment that you would like to dispose of.

Why not insert an advertisement in the Classified Wants Section, giving a brief description of this material? These pages are read by thousands of oil men. More than likely some of them can use the material you would like to sell.

The OIL and GAS JOURNAL
TULSA, OKLA.

Stronger Gasoline Tone at Chicago

Reflection of Crude Situation in Southwest and Attitude of Refiners. Considerable Inquiry for Supplies for Storage

By J. B. Waldo

CHICAGO, Jan. 12.—There was a stronger tone for gasoline in this market today which was to some extent a reflection of the southwestern situation as to crude and the attitude of the refiners throughout the section. There was also a very considerable inquiry for gasoline from the country and not a few of those asking regarding prices were in the market for considerable quantities to be stored. The ideas of most of these buyers were to pay not more than 4 cents for U. S. Motor gasoline but they found this difficult, if not impossible, and some 50 car orders were placed at 4⅛ cents with a growing tendency on the part of refiners to ask local sales offices to advance their price for the U. S. Motor grade to 4¼ cents and at the same time began asking 4⅛ cents for the 400 endpoint gasoline. There was quite a demand for immediate shipment material for January requirements but this business was for the most part small orders wanted at once. Several reports were received as to the gallonage and the larger concerns reported almost with no exception that they were doing a much better business than a year ago but it must be remembered that the heavy snows of last year began the week between Christmas and New Years and that at this time the roads were in bad shape over the entire territory while this year they are in almost perfect condition for driving.

There was little change in the furnace oil market which is still held back badly by the lack of really cold weather. The demand this morning was made up wholly of orders against contracts with little spot business. Several of the local distributors are depending on spot orders this year but they are all stocked up with cars waiting unloading.

The demand for industrial heavy fuel oils showed some improvement but is still far from what it should be at this time of the year. The steel companies and other large manufacturing concerns have contracts against which they draw as they need the fuel oil.

Kerosene was neglected today. The demand for straightrun gas oil was very light and there were free offerings by several refiners mostly from North Texas. Several of the North Texas refiners have reported that they were sold up on gasoline during the past couple of days.

Market Improved

The gasoline market showed a better tone all of last week. There was a better demand, and slightly higher prices were quite generally had. No evidences of any buying boom in the market is observable and for this there are several reasons. The chief one is that the jobbing trade are afraid of the weather to come. Another reason the market is holding back against too rapid advances is that quite a number of the largest independent operators supplied their needs late in December, buying U. S. Motor gasoline for January delivery at 3¾ to 3⅞ cents. They were tipped off by some salesman or by their refiner direct that higher prices would prevail after January 1 and took advantage of the opportunity offered them to buy for their January requirements at the prevailing prices at that time. A third reason for lack of heavier buying at the present time, is that there is a slackening in the use of the cars and in the number of cars which have renewed their license for the year 1931.

Trend to Higher Prices

The refiners are as a rule asking higher prices for their U. S. Motor gasoline. The market towards the close of the week by refiners to the trade was close to 4¼ cents Oklahoma or North Texas with some Oklahoma refiners asking a still higher price. Advices received here are to the effect that the cheap crude has disappeared and that every refiner is paying the full posted price or his regular contract price for his crude. These reports are being made by refiners to their branch offices here and are being repeated with the additional statement that the change in the cost of crude necessitates an advance of the price for U. S. Motor gasoline to at least 5 cents a gallon, Group 3. Some of these refiners have been complaining bitterly over the hardship that they were being put to, to pay full posted prices for crude while their competitors in North Texas, for example, were securing bootleg crude at a saving of at least 50 cents a barrel. At least one company put in a request for a credit of 50 cents a barrel on the crude run and charged at the posted price on the theory that if it did not get the full amount asked for they might succeed in getting some sort of a reduction. However, the refiners are entitled to secure at least a price of 5 cents a gallon and more and if they will hold their runs the price would be obtained easily. The trade here as a whole would like to see a higher market but they want it to be a steady market. They figure that the only way that competition from the cut price stations can be reduced is through higher refinery costs for gasoline.

Active Competition

It is hard to secure higher prices in the face of such active competition as exists in the gasoline industry. Every offer to buy by a large concern such as the Benzolene Motor Fuel Co. of this city, which buys for the Taxicab Co., or from the various cities and governmental branches which use considerable quantities of gasoline, only results in lower and lower prices. For example, take the City of Milwaukee. It wants a quantity of gasoline, not an excessive amount but a fair sized order over the first three months of the year. Several concerns bid the low of the published quotation and were told that the order was placed at a much lower figure. The information is now given out that the order which called for 60-62 400 endpoint, was placed at 4 cents for January deliveries, and at 4.06 cents for February and March. The last order of the Benzolene Motor Fuel Co. went at 4.02 Group 3 to a Chicago refinery while the Milwaukee order was taken by a marketer who takes the product of another small local plant so that the differential plays a big part in determining the securing of good sized orders in this territory. The quotation made by the refiner which secured the Taxicab order was 6.40 cents Chicago which sounds better and is better than its equal on the basis of delivery from Group 3 when the price would have been 4.02 cents.

Gasoline Pipe Line

The gasoline pipe line which is to be operating as far as Kansas City from Ponca City by January 15, if matters go as planned, is supposed to be able to deliver gasoline at a cost of 1⅛ cents a gallon to this city. This price is considerably less than the refiners figure the cost of their crude transportation which is 76 cents a barrel. In other words, the general practice has been to add to the posted price of the grade of crude received, 76 cents for each barrel, of crude delivered as making the cost of the crude in the tanks at the refinery near this city. This figure includes the cost of the crude, the gathering charge and the purchasing charge and any other incidental costs. Incidentally it may be observed that some figures made on the cost of transporting gasoline by pipe line are 1½ cents a gallon instead of 1⅛ cents. The former figure would be 63 cents a barrel and compared with the crude delivery costs of 76 cents a barrel. The pipe line gasoline will have some advantage over the gasoline refined here on the basis of these costs. The great advantage the refiners claim who will benefit by the pipe line will be that it will put them on the same basis of delivery as the nearby refiners and that there will be few important points in the territory which cannot be reached by local freights by shipping from the storage tanks along the pipe line.

Buying More Active

There was a good deal more buying last week in this market and the spot sellers were quite busy. Orders against contracts were also good so that the movement was considerable. There were many buyers who came into the market on Monday who expected to be able to fill their needs at a price of less than 4 cents. There were some sales at the lower prices and even as late as Thursday some refiners accepted business at 3⅞ cents but at the close of the week, the price had advanced to 4 cents as the low price of the market with resellers asking as a rule 4¼ cents, Group 3, for U. S. Motor gasoline. There were a number of purchases made at the early part of last week, for storage. In several cases the quantity was 50 cars to be taken in at once or at an early date. This was either the U. S. Motor grade or the 60-62 with a varying endpoint, some being the full 400 endpoint while others ordered the 437 endpoint. There has been little difference in the prices quoted by refiners to local buyers for the 60-62 437 and the U. S. Motor grade and in some cases the higher gravity material probably cost the refiner less money than the straight U. S. Motor gasoline. The prices named for the higher gravities showed little improvement during the week. They barely kept out of the way of the U. S. Motor advance. Early in the week a good 64-66 375 gasoline was bought at 4⅜ cents and the seller later advanced his price to 4½ cents. The price was undoubtedly a low one made to a reseller but the same prices have been quite freely quoted to the larger jobbers by refiners seeking to move these gravities of gasoline. Natural gasoline has looked up a little as would be natural with gasoline showing what improvement it has made.

The situation at Detroit is still regarded as critical by the trade. Outside of Detroit but in the same part of the territory, there is still a considerable amount of sporadic price cutting—nothing really serious in itself except that a price cut is always liable to lead to retaliation and more price cutting.

There has been just a little more demand for kerosene. The movement is probably the result of the fact that jobbers had let their tanks get practically empty, not wanting to order before the first week of the new year. Price remains close to 3 cents for the 41-43 water white kerosene.

Furnace Oils

The furnace oil business has just sort of languished for cold weather. There is very little spot business coming along as practically every jobber has some sort of a contract and few have taken out the quantity called for in their contract so the business is simply orders against contracts for the most part. Many have contracts for Shell material on which the price is based on the average of quotations in a published report which are rather high but the business is in such shape that there is a call for this material for local deliveries. For more distant deliveries, the shipments are commonly made from the Mid-Continent Field. The Shell Corp. is working the plan so that it causes little trouble if a customer does not take out his full amount under his contract. Their supplies are so limited by reductions in runs that they have been very willing to cancel any unshipped part of the monthly deliveries at the close of each month.

The demand for furnace oils is fairly steady but light as might be expected with the open winter we have had to date but hope still prevails that there will be a spell of colder weather—if not at once, a little later in the season. The trouble with these cold springs is that late business is not so acceptable to any one as seasonable business. Even the consumer will hold down his orders to the lowest possible notch while he would fill his tanks during the real winter season. That prices hold so steady speaks well for the condition of supplies. If the refiner had run his full capacity and piled up a quantity of material to seek a market it would be different but as it is there is very little pressure to sell and that is confined to certain products and certain refiners.

The market as a whole is holding very firmly. Distillates have been more freely offered but not at lower prices, where the material was good grade. Some of the refiners in attempting to work off their kerosene as distillate have increased their stock of the latter until they had more than there was a prompt demand for, but they are expecting that a little later there will be some improvement in the consumption. If not, what there is left may be used as cracking stock. The market here for a good distillate continues to rule at 2¾ to 3 cents.

The zero gas oils are very firmly held and some have been driven to substituting distillate for the light gas oils. There is practically no straw gas oil available, whatever there may be in stock is held against sales. Amber gas oil is firm and even the non-transparent dark gas oils are strong in tone, the range being for the dark and amber oils from 2½ to 2⅞ cents to the trade. The straightrun oil is still very dull, there being no change in the situation here nor in the prices asked by refiners. As the gasoline season approaches there is less desire to get rid of any straightrun gas oil that may be in store as it will come in later as cracking stock. The gas company demand has proven very disappointing this season partly because many buyers contracted for their needs and partly because the gas companies have used less oil.

The light fuel oils are in good request by distributors but there is little buying on the spot market as the dealers have contracts for their needs at least while the weather continues so mild. The 28-30 fuel oil is specially wanted by many distributors and commands prices ranging from 90 to 95 cents when the quality of the oil is first class. There is some oil which is not a true zero oil and which is off a little in the flash which can be had as low as 85 cents but there is little good oil to be had and none in any quantity at less than 90 cents.

Fuel Oils

The heavy industrial fuels have sold some better this week than last and there are a good many inquiries for future deliveries which have not been settled as yet but should yield a good percentage of orders to inquiries. The individual orders are not heavy but there are a good many more of them. Many plants which had been shut down for the holidays or for a longer period have started up. The steel industry reports that it has a good amount of business ahead of it which it hopes to increase as the railroads and construction concerns get in shape to place their orders.

The demand is rather active but not

(Continued on Page 180)

Greater Confidence in Eastern Market

Firming of Refinery Gasoline Largely Responsible With Sales Improving and Gradual, Steady Recovery Expected

By A. E. Mockler
New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Jan. 12.—Continued quiet has been reported in East Coast refined products markets during the past week, but a better feeling is in evidence and the firming up in the position of refinery gasoline has imparted more confidence to the entire market structure. Business was slow to resume after the year-end holidays but sales showed some improvement during the week under review, and refiners are looking for a gradual but steady recovery.

Oil men showed considerable interest in the annual automobile show which was held in New York during the week just ended. It was reported that sales of new automobiles were substantially larger than had been looked for, and with automobile manufacturers increasing operations at a rapid rate, the outlook for a corresponding increase in consumption of gasoline and lub oils during 1931 is likewise improved.

The eastern petroleum trade was obliged to make radical inventory adjustments at the close of the year, but with this depreciation already a thing of the past, the industry in general is in optimistic mood concerning 1931 business. No sensational upswing in business is anticipated but leading interests are of the opinion that a steady recovery is in sight.

Readjustment in the financial position of the industry, it is felt, will be accompanied by one or two major consolidations within the first half of 1931 and the year in its entirety is expected to witness several realignments of major importance.

East Coast refiners have made appreciable progress in cutting down their refinery stocks of gasoline and other products, and with continued curtailed refinery operations scheduled for the next few months it is expected that the industry will go into the summer season in much better statistical position.

Refinery Gasoline

The year-end advance in U. S. Motor gasoline in tank car lots to 7 cents per gallon, refinery has put the market in better position. All of the major marketers are quoting 7 cents locally, with the exception of Richfield, which is quoting 7½ cents for California U. S. Motor, and it is reported that current sales are being made at full prices.

Jobbing demand for gasoline has picked up considerably, influenced both by the stronger tone in the market and the increased consumption incidental to favorable weather, and tank car and barge movement from refinery terminals has run into fairly large gallonage totals during the past week.

There is some talk in the local market regarding the likelihood of another half-cent advance in U. S. Motor gasoline quotations here in the near future, but it is generally felt that the 7 cents level will be maintained until the market is on a thoroughly established footing before further mark-ups are attempted.

Tank Wagon Gasoline

The retail division of the market is exhibiting a better sentiment as a result of the firming up in refinery prices, and there is more tendency shown by marketers to adhere to posted prices in their retail sales.

However, price cutting has not disappeared by any means, and it is expected that it will require the best part of the first quarter to restore any degree of real stability to tank wagon and service station price schedules in the metropolitan area and other centers where price cutting has been both continuous and drastic during recent months.

Sales of premium gasolines are picking up a little, and with continued improvement in economic conditions looked for, marketers anticipate a strong gain in gallonage on the higher quality motor fuels.

No general price revisions in either tank wagon or service station price schedules have developed in East Coast territory during the week.

Kerosene

The advance in tank car gasoline has brought about a better feeling in the kerosene market, and while the posted price of 6½ cents per gallon for 41-43 in tank car lots at refineries is still being shaded, it is difficult to buy under 6¼ cents in the current market, which level represents a quarter-cent mark-up from recent going prices.

Jobbing demand for kerosene is well maintained, and refiners report that current tank car movement is well up to that at this time last year.

Tank wagon demand for kerosene showed some improvement during the week, and marketers look for a good gallonage this year. Tank wagon and retail kerosene quotations remain unchanged throughout the territory.

Fuel Oil

Contract deliveries of bunker "C" oil are well maintained, and a good spot movement is reported. Refiners are quoting the market unchanged at $1.05 per barrel in bulk at refinery terminals. Stocks continue fairly large, but some progress is being made in cutting down surplus holdings. While an early price cut is by no means out of the question, the outlook for maintenance of the $1.05 level is slightly better than in recent weeks.

Reports on 1930 sales of fuel oil in East Coast area are not yet available, but it appears probable from reports of one or two major interest that aggregate gallonage for the territory showed a slight decrease from 1929 figures. This was due in large measure to the curtailment of shipping operations during the closing half of the year just ended.

Diesel Oil

Refiners are quoting the market unchanged at $1.85 per barrel in bulk at refinery terminals, and a good movement is reported. It is felt by leading interests that the recent reduction of 15 cents per barrel has readjusted the market to changed conditions incidental to reduced crude prices, and the belief is expressed that barring any sudden change in conditions, the current price basis will be maintained, with an advance in sight before the end of 1931 if current curtailment plans of the industry carry through.

Gallonage on Diesel oil for 1930 at East Coast ports showed a slight gain over 1929 totals, it is reported, but the increase was not as large as had been looked for.

Gas Oil

Routine movement of 28 plus recycled gas oil was reported locally during the past week. The posted price remains unchanged at 5¼ cents per gallon in tank car lots at refinery terminals, but this quotation is still being freely shaded, with the average going price from 4½ to 4¾ cents.

Stocks of gas oil are fairly heavy, but considerable quantities of low grade oil are being moved into consumption on domestic furnace oil contracts, and refiners expect a material reduction in surplus holdings by the close of the winter season.

Lubs

Inquiry for cylinder oils has picked up somewhat during the past week, but the volume of actual business showed little improvement, and the market continued in easy position. Sellers look for an early revival in trading, however, and there is less disposition shown to meet some of the low bids which buyers have been tendering.

Refinery holdings of lub oils are still fairly large, but most of the weaker holders appear to have succeeded in liquidating their distressed stocks, and this should react to the advantage of the general market.

Compounders and blenders, it is reported, are carrying much smaller stocks than is usual for this season of the year, and any sustained buying move for replacements would be early reflected in a recovery in spot prices.

Paraffin Wax

Demand has been slow in picking up following the turn of the year and the market remains in rather easy position, with prices unchanged. Domestic consumers are not yet in the market for supplies in any quantity, and the same holds true of the export division of the market.

There have been a few resale transactions in wax reported during the week, both here and New Orleans, at prices which netted the sellers slight losses, and the marketing of these lots has been instrumental in keeping the market in weak position from the standpoint of prices.

Export Market

An inquiry for a cargo of 3,000-4,000 tons of 64-66 gasoline, c.i.f. Antwerp, was reported in the Gulf market during the week, but the inquiry was subsequently withdrawn and it was reported that Rumania had secured the business. There were no cargo fixtures reported in the open market at the Gulf last week, but integrated companies with foreign distributing organizations moved a number of cargoes out of Gulf ports during the week.

An inquiry for a 10,000-ton cargo of California 400 endpoint gasoline for February shipment is reported, but up to the time of writing this business had not been closed.

There is some European interest reported in Mexican heavy crude for shipment over 1931, but foreign buyers, it is understood, are not willing to contract at current asking prices, which are 56 cents a barrel at terminals, plus export tax.

No contract activity in Venezuelan crude is reported.

Petroleum Exports

There was a substantial increase in export movement of refined petroleum products through the local port during the week ended January 3, and from the standpoint of the export operator, the year has started off in good fashion. However, new business reported this week is not of large proportions, and it is believed that sellers in this area will have a difficult time of it in maintaining 1930 levels in export sales.

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Jan. 3	Dec. 27	Dec. 20
Gasoline	20,000	110,000	300,000
Naphtha	420,000	100,000	875,000
Kerosene	145,000	50,000	815,000
Fuel oil	5,000	45,000	160,000
Lubricating oil	1,410,000	675,000	960,000
Petroleum, ref.	930,000	650,000	1,110,000
	Pounds		
Petrolatum	123,000	30,000	.....
Paraffin wax	1,430,000	745,000	1,290,000
Refined	175,000	450,000	345,000
Scale	390,000	210,000	790,000
Lubricating grease	640,000	250,000	970,000

Refined paraffin wax contracted for last month by the Spanish petroleum monopoly is beginning to move into export channels, and the clearance of this considerable quantity of wax from the spot market has improved sentiment in export quarters on this product.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended January 3 totaled 1,838,000 bbls., a daily average of 262,571 bbls., compared with 1,989,000 bbls., a daily average of 284,142 bbls. for the previous week. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	428,000
New York	965,000
Philadelphia	227,000
Others	153,000
Total	1,773,000
Daily average	253,286
At Gulf Coast ports—	
Galveston district	65,000
Total	65,000
Daily average	9,285
At all United States ports—	
Total	1,838,000
Daily average	262,571

Distribution of total imports is as follows:

Crude	1,189,000
Gasoline	142,000
Gas oil	19,000
Fuel oil	488,000

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports for the week ended January 3 totaled 526,000 bbls., a daily average of 75,143 bbls., compared with 249,000 bbls., a daily average of 35,571 bbls. for the previous week. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast ports—	
Baltimore	51,000
New York	475,000
Total	526,000
Daily average	75,143

There were no receipts of California oil at Gulf Coast ports during the week.

Distribution of total California oil receipts is as follows:

Gasoline	388,000
Gas oil	64,000
Fuel oil	74,000

Shipments of California refined products for Atlantic and Gulf Coast ports during the week (with identity of owner of tanker moving the oil where such owner is an oil company) were as follows:

To New York—80,000 bbls. of gasoline on the Cities Service Oklahoma (Cities Service Co.); 97,000 bbls. of gasoline on the Japan Arrow (Standard Oil Co. of New York); 114,500 bbls. of gasoline on the Tidewater (Tide Water Associated Oil Co.).

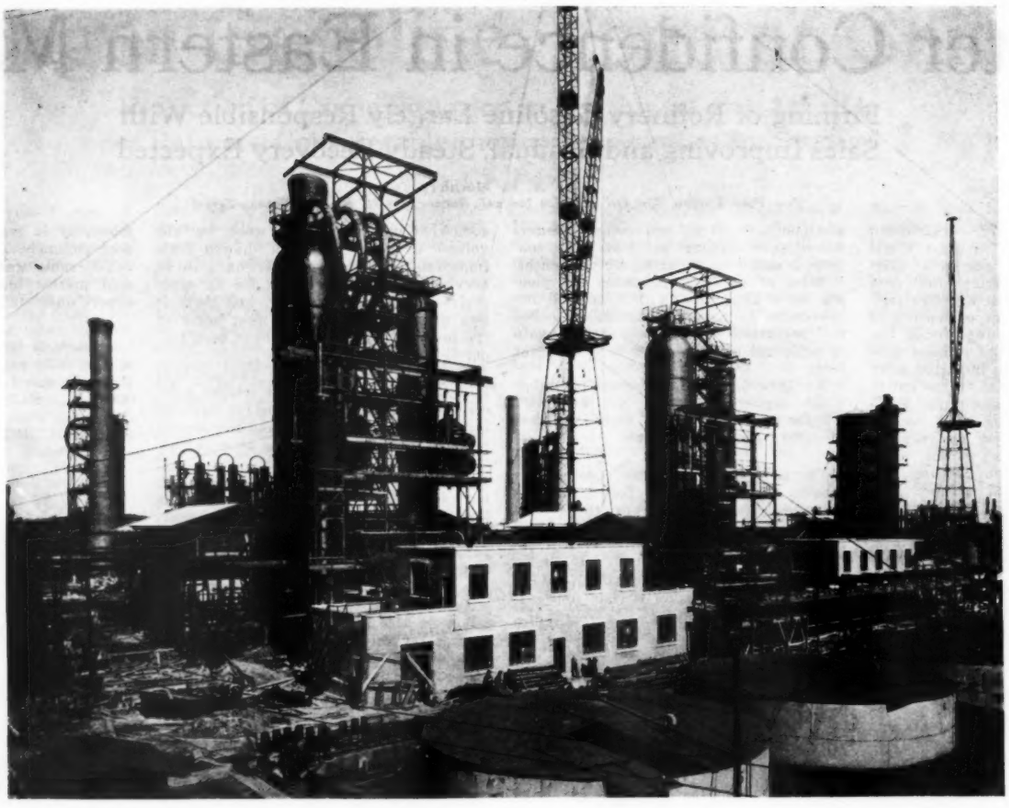
To Philadelphia—114,400 bbls. of gasoline on the Eastern Sun (Sun Oil Co.), and 117,000 bbls. of gasoline on the Sun (Sun Oil Co.).

To Port Arthur, Tex.—54,100 bbls. of Diesel oil on the Oregon, 117,000 bbls. of Diesel oil on the California, 72,500 bbls. of gasoline on the Illinois and 73,200 bbls. of gasoline on the Texas (all The Texas Company tankers).

To Houston, Tex.—73,500 bbls. of gasoline on the New Jersey (The Texas Company).

LOUIS MARCK DEAD

BRADFORD, Pa., Jan. 10.—Louis Marck, age 81 years, for over 50 years an oil producer in the Bradford Field, died in a Buffalo, N. Y., hospital after a short illness.



Two Stage Distillation

Three of the four two-stage Foster Wheeler refinery units being installed at a leading refinery are here shown under construction. These units will each process 10,000 barrels of crude per day, continuously recovering to specification, gasoline from the top of the atmospheric tower, three liquid side streams; and, from the vacuum stage the overhead product, three side streams and flux bottoms. Flexibility in the design of the units permits varying specifications of the products to meet changing market conditions.

In the background (at the left) of the above photograph, is shown a small Foster Wheeler atmospheric tower. This unit handles 5,000 barrels per day of cylinder stock solution, recovering to specification one overhead product, a liquid side stream and bottoms.

FOSTER WHEELER CORPORATION
165 Broadway, New York, N. Y.
Branches in Principal Oil Centers

Foreign Associates: Foster Wheeler Limited, London, England.
Foster Wheeler Limited, Toronto-Montreal, Canada.
Societe Anonyme Foster Wheeler, Paris, France.

FOSTER WHEELER

Manufacture of Natural Gasoline

CO_2 Recorders Add To Fuel Efficiency Of Boiler Operation

By Henry Cooney

Some time ago our company added CO_2 Recorders to the combustion equipment of the boiler house here; and, I am offering the following brief notes on the utility of these instruments when serving gas fired boilers, believing that they may be of interest.

A complete analysis of the flue gas is desirable for certain purposes in all plants, but for regular boiler operations, if the percentage of CO_2 is known, simple calculations, tables or charts will afford the boiler operator the information needed to hold combustion efficiency at a high point.

If the readings of the recorders are to be correctly interpreted, one of the first factors that should be determined is the maximum or ultimate CO_2 for the fuel burned. Combustion analyses of the natural gas used as fuel in this instance run about 80.5 per cent CH_4; 18.2 per cent C_2H_4 and 1.3 per cent N_2. The calculated ultimate CO_2 is 12.1 per cent.

The ultimate CO_2 factor when so found may be checked by Orsat tests. Care should be taken in securing a determination, however, to avoid, where practical, those showing carbon monoxide, as the presence of this gas usually indicates unburned fuel other than that shown by the formula CO. An analysis showing 9.1 per cent CO_2 and 5.2 per cent O_2, or any percentages of these gases in the proper proportions will answer. Substituting these values in Equations 1 or 2 and solving, the ultimate CO_2 will be found to be 12.1 per cent as calculated.

$$(1)\qquad U=\frac{C_2}{1.00-\frac{O}{20.93}}$$

$$(2)\qquad U=\frac{20.93\ (C_2+C)}{(20.93-O)+0.4C.}$$

Where U = the ultimate CO_2.
C_2 = actual CO_2 (as analyzed).
C = actual CO (as analyzed).
O = actual O_2 (as analyzed).

The O_2 percentage of the Orsat analyses may be checked by Equations 3 or 4.

$$(3)\qquad O=20.93-20.93\frac{C_2}{U}$$

$$(4)\qquad O=20.93+0.4C-\frac{20.93\ (C_2+C)}{U}$$

Since the ultimate CO_2 for this fuel is a constant the following equations may be written:

$$(a)\qquad O=(12.1-C_2)\times 1.73$$

$$(b)\qquad C_2=(20.93-O)\div 1.73$$

$$(c)\qquad V=\frac{9.67\times 12.1}{C_2}=\frac{117.07}{C_2}$$

$$(d)\qquad E=\frac{V-9.67}{9.67}$$

Where V = volume of products of combustion, cubic foot dry.
E = Per cent excess air.

Composition of Fuels

While the composition of the fuel burned in this case is generally uniform, there are at times changes in its calorific value. The variations in the ultimate CO_2 factor have ranged from 11.7 to 12.3 per cent, representing changes in the heat content of the gas from 1,020 to 1,230 B.t.u. per cubic foot. These values agreeing quite closely with the readings from the fuel calorimeter. However, under normal operating conditions the maximum CO_2 as checked by the daily Orsat tests runs very close to 12.1 per cent, giving a uniform standard by which to judge of the efficiency of the combustion from the CO_2 percentages.

If combustion is incomplete CO is formed and the CO_2 falls off rapidly, due to the presence of the CO and the unburned gases. If sufficient air is supplied a cubic foot of this gas produces a definite volume of CO_2. This volume of CO_2 becomes a constant for this fuel, the variables being the volumes of O_2 and N_2 present. Hence the CO_2 as shown by the recorders serves as an index of the percentage of excess air present, which is the chief function of the instruments.

Stack Losses

By far the greatest loss in the boiler house is due to the heat carried up the stack. The principal factors contributing to this loss are high exit gas temperatures and excess air. These factors are interrelated and are controllable within limits. "For a given set of furnace conditions there is increase in the temperature of about 200° F. for each 10 per cent reduction in the excess air."[1] As high temperatures mean better combustion, a more efficient heat transfer and lower stack temperatures, it is apparent that the furnace should be kept as hot as the refractories will permit. Or as viewed from another angle the excess air should be maintained at the lowest point at which the fuel may be completely burned.

If we substitute the value for CO_2, 9.1 per cent, from the Orsat analysis referred to above, in Equations c and d, the excess air figures out 33 per cent. It will be noted that this is above the conventional 20 per cent excess air limit for nat-

[1]From Bulletin of the Bailey Meter Co., Cleveland, Ohio.

(Continued on Page 185)

GREATER SEMINOLE PRODUCTION DECLINES 50 PER CENT IN YEAR

Curtailment of production in the Greater Seminole Field of Oklahoma, in accordance with the drastic proration program being carried out in the State, and the natural decline in the wells, has brought the daily production of natural gasoline down to 578,495 gallons, a check this we k showed.

The figures for September, 1930, gave a daily average of 749,500 gallons, representing a drop of more than 60 per cent from the production mark registered during the flush period. The current production is below the September amount by more than 23 per cent, a decline of 171,005 gallons. A year ago the same area was producing in excess of 1,000,000 gallons daily.

The greatest decline was experienced in the Mission district, where the average daily production is now 24,980 gallons as compared with the daily production of 48,000 gallons in September, representing a drop of 48 per cent. The current figure of 149,326 for the Seminole City district represents 65 per cent of the September production, a decline of 79,674 gallons. Bowlegs district showed a drop of 38,508 gallons. Earlsboro dropped 13,000 gallons.

The Empire Oil & Refining Co. has completed a new plant in the Asher district, and construction work is nearly finished on their second plant in recent months at Konawa. The new Konawa district plant is expected to produce 12,000 gallons of natural gasoline daily. The W. B. Pine plant, which was producing 1,500 gallons daily in the Little River district, has been shut down. The daily production figures for all of the companies show wide fluctuations through the monthly periods, attributable to the proration schedule, but it is also evident that the general level of production has been substantially lowered by the gradual decline in the gas supply. Several companies have switched their gas from one district to maintain a higher gasoline production in another district, closing down the plant in the former without showing a resultant loss in their operations in the field as a whole. Another factor which has operated to cut down the number of natural gasoline manufacturing plants is the co-operative arrangement whereby gas supplies are exchanged among the various manufacturers.

Crosbie & Moran Co. has taken over the Moran & Gillespie Co., thus acquiring the latter's plant which is producing 10,000 gallons daily in the Konawa district.

It is interesting to note that occasionally the manufacturers who are also producers of crude oil are utilizing their lift plants as compression stations, permitting them to close down their regular facilities. This is in particular favor as one of the means of meeting the present low natural gasoline markets.

NATURAL GASOLINE PRODUCTION, GREATER SEMINOLE AREA IN OKLAHOMA

Company—	Seminole City	Bowlegs	Earlsboro and E. Earlsboro	Little River, Asher	St. Louis, Konawa, Pearson	Maud	Mission	Total
Amerada Pet. Corp.	.....	.....	17,500	.....	.....	14,500	.....	32,000
Barnsdall Oil Co.	.....	.....	12,500	.....	.....	1,500	.....	14,000
Carter Oil Co.	60,000	10,000	40,000	25,000	.....	.....	.....	135,000
Crosbie & Moran Co.	.....	.....	9,000	.....	20,000	.....	.....	29,000
Empire Oil & Ref. Co.	18,500	22,000	.....	22,000	17,000	15,000	.....	76,000
Forrest E. Gilmore Co.	.....	2,700	.....	7,700	.....	2,000	.....	12,400
Gypsy Oil Co.	.....	.....	.....	33,600	.....	.....	14,700	48,300
Independent O. & G. Co. (Phillips Pet. Co.)	.....	.....	.....	4,500	.....	.....	.....	4,500
Magnolia Pet. Co.	.....	.....	6,000	.....	13,000	.....	.....	19,000
Pure Oil Co.	7,226	1,292	.....	3,870	.....	.....	.....	12,388
Powers, M. F., Co.	.....	.....	.....	.....	2,000	.....	.....	2,000
Shell Pet. Corp.	1,800	.....	.....	.....	1,627	.....	10,280	13,707
Sinclair Oil & Gas Co.	60,000	40,000	.....	.....	15,000	.....	.....	115,000
Skelly Oil Co.	.....	.....	30,000	.....	.....	.....	.....	30,000
Victor Gasoline Co.	1,800	5,000	.....	21,000	4,400	.....	.....	32,200
K-P Gasoline Co., Inc.	.....	.....	3,000	.....	.....	.....	.....	3,000
Total production	149,326	80,992	118,000	117,670	73,027	33,000	24,980	578,495

TO BUILD AT LOST HILLS

While drilling progresses on the No. 1 Lincoln of George F. Getty, Inc., at Lost Hills, Calif., the company is completing plans for the construction of a gasoline absorption plant which will be ready to operate by the time the well is brought in. Special equipment to handle the heavy gas and salt water conditions of the district has been installed at the drilling well.

NEW LOADING METHODS CHANGE OLD PRACTICE

By R. E. Biggs
Columbian Gasoline Corp.*

The modern methods of loading gasoline in the Richland, La., area differ slightly from the old methods employed in the Monroe Field. All the producers in the Richland Field, with one exception, have approximately a 6-mile line through which the gasoline has to be pumped to reach the loading rack.

Our company uses loading covers with gasoline and vapor hose connections with a 2-inch spring pop valve on the vapor line so as to maintain whatever pressure that may be desired on tank cars while loading. At this season we are loading under about 4 pounds pressure. The vapors as released are conducted through an underground line to a stack about 550 feet away from loading racks.

When tank cars are filled they are allowed to set for a short while before opening. After the cars are opened the samples are taken as quickly as possible and dome cover applied. During the summer months our loading losses average about 150 gallons per car while in the cooler season the losses are negligible.

The Louisiana Gas & Fuel Corp. gasoline and vapor risers are equipped with swivel joints so when the hose are taken loose they can be swung around and permitted to hang free until another car is ready to be connected into. No attempt is made to hold any pressure on these cars while being loaded. The vapors are pulled off with an electric driven compressor and converted to liquid and put into storage.

For taking samples from the car after it is loaded they use a short piece of three-eighths inch pipe with valves, etc., on one end, which they insert through a stuffing box which is attached to one of the 2-inch vent openings of the car dome. There is usually enough pressure on the car to force the gasoline out through the small pipe for getting samples, etc.

The United Carbon Co. has its cars equipped with flapper valves attached to the dome covers of the cars. These were made by drilling two 2½-inch openings in the dome covers and having a short piece of 2½-inch pipe inserted through these openings and brazed. To load, a 2-inch pipe is slipped down through the 2½-inch. This 2-inch has a 2 to a 2½ swedge on one end. The gasoline is loaded through the 2-inch.

The other 2½-inch opening in the dome cover is fitted for attaching a pressure gauge, a thermometer, and also getting a sample from the car while under pressure. After the car is loaded and ready to be closed up the 2-inch pipe, etc., is drawn out and the flapper valves automatically close the opening. This company loads under about 5 pounds pressure and releases the vapor to the air over the top of the car.

*Paper presented at plant foremen's meeting.

HOBBS PLANT OUTPUT NOW 40,000 GALLONS

The natural gasoline plant in the Hobbs, N. M., field which is owned jointly by the Shell Petroleum Corp. and the Continental Oil Co. is now producing approximately 25,000 gallons of natural gasoline daily. This production is obtained from 12,000,000 feet of gas.

The plant which is operated by the Shell corporation is located in the southeast quarter of Section 19-18-38. The plant serves the north half of the field, most of the leases being under contract to the Shell corporation.

The plant of the Phillips Petroleum Co. serves the south half of the field. This plant at present has an output of approximately 15,000 gallons daily.

Brief Items for Petroleum Refiners

Continental Adds Two Plants to Its Refinery Division

The Continental Oil Co. added two plants to its list of operating refineries the past week. The company purchased the 2,100-bbl. skimming plant of the Lewistown Oil & Refining Co. located at Lewistown, Mont., and started operating its new 1,500-bbl. refinery at Denver, Colo.

The Lewistown refinery was acquired through purchase of the stock of the Lewistown company. The plant was built in 1921 by Frank P. Book and associates and has been operated continuously since that time. A large part of the crude oil supply was obtained from Continental company's production in the Cat Creek Field of Montana. The Continental company which has been a major distributor of refinery products in Montana for many years also purchased a large part of the refinery output, particularly gasoline. No changes have been announced in the operating personnel of the refinery by the new owners. The plant which is refining approximately 1,500 bbls. daily will continue to operate with Cat Creek crude oil.

Construction of the new plant of the Continental company at Denver was started last July. It is located on a 107-acre tract along Brighton road, 6 miles from the center of the city. It was built to take care of the Continental's marketing requirements in Denver and surrounding sections where the company is the largest distributor. All products will be delivered from the refinery by truck.

The crude oil and cracking operation of the refinery are combined, the waste heat from the cracking unit being utilized to top the crude oil. The cracking equipment is of the Cross type. The plant is operating with crude oil from the Fort Collins, Colo., field. The refinery equipment includes adequate storage facilities, a gas recovery system and several brick bungalow homes for employes. J. E. Fenex, formerly assistant superintendent of the company's refinery at Wichita Falls, Tex., is superintendent of the new plant.

With the Lewistown and Denver plants, the Continental company now has 11 operating refineries with a total capacity of 63,500 bbls. daily. The other plants are located at Ponca City, Okla.; Baltimore, Md.; Sapulpa, Okla.; Wichita Falls, Tex.; Florence, Colo.; Glenrock, Wyo.; Farmington, N. M.; Artesia, N. M.; and Albuquerque, N. M.

ATLANTIC-GULF REFINERY IS ADDING TOPPING UNIT

Construction work is nearing completion on the new topping plant of 3,000-bbl. daily capacity which the Atlantic Pacific & Gulf Refining Co. is adding to its present skimming and cracking facilities at Wichita Falls, Tex. The straightrun and cracking plants have a daily capacity of 3,000 bbls. each. The Jenkins type process is used.

This company operated for some time as the Orient Petroleum Co., and took its present name recently.

REFINERY NEARS COMPLETION

TOLEDO, Ohio, Jan. 12.—The Pure Oil Co.'s $2,000,000 refining plant on an 80-acre tract on the East Maumee Bay shore and adjoining the big plant of the Standard Oil Co. of Ohio, is rapidly nearing completion. The plant includes complete cracking and skimming equipment. The company has dockage on Maumee Bay for shipping by water.

THE TEXAS COMPANY EXPANDING CRACKING EQUIPMENT AT PLANTS

The Texas Company (Delaware) has expanded its cracking operations during the past year although the total crude oil capacity of its refineries remains practically unchanged. A report compiled since the first of the year shows 85 cracking units in operation at 13 of its 19 refineries with a total capacity of 158,850 bbls. daily. These data do not include four units in operation at two refineries of The Texas Company (California) with a capacity of 8,200 bbls. daily.

The company has not only increased the rated capacity of its cracking units but it has also improved units which have been in operation for several years and installed new type units designed to secure greater yields and in other ways contribute to the economic development of the cracking phase of the company's refinery operation.

Most of the cracking capacity is in stills of the Holmes-Manley type which was developed and is owned by The Texas Company. This process has been improved from time to time and has been adapted to the various requirements of the company at its several plants. In order to carry on a nonresiduum operation at five of its refineries the company has installed 13 units of the "Pressure Choke" type. These units can be operated with recycle or residuum stocks secured from the Holmes-Manley operation.

In addition five units of the DeFlorez cracking process are now in operation at five refineries. This is a relatively new process which was also developed at Texas refineries. Constituting a fourth type of cracking equipment, one unit of the Tube and Tank process is in operation at the Houston, Tex., refinery of the company.

On the West Coast, The Texas Company (California) has one unit of the Cross process at its Fillmore, Calif., refinery. Three Holmes-Manley units are in operation at the Los Angeles refinery.

Eighteen refineries of The Texas Company (Delaware) located in 11 states have a rated capacity of 186,300 bbls. daily to which The Texas Company (California) adds 34,000 bbls. with two operating refineries making a total capacity of 220,300 bbls. daily.

Plant Capacities

The following table gives plant locations, crude oil capacities, cracking capacities, number of cracking units and type of cracking plant:

THE TEXAS COMPANY (DELAWARE)

Location of refineries—	Daily crude capacity (bbls.)	Dly. cracking capacity (bbls.)	Cracking units No.	Cracking units Type
Port Arthur, Tex.	60,000	80,000	38	Holmes-Manley
		2,500	1	DeFlorez
		5,000	2	Pressure Coke
Port Neches, Tex.	20,000			
Houston, Tex.	20,000	1,000	1	Tube and Tank
West Dallas, Tex.	16,000	3,600	2	Holmes-Manley
		3,000	1	DeFlorez
		4,000	3	Pressure Coke
San Antonio, Tex.	3,000	3,000	2	Holmes-Manley
El Paso, Tex.	1,500	1,500	1	Holmes-Manley
Amarillo, Tex.	3,000	1,500	1	Pressure Coke
		1,250	1	DeFlorez
Shreveport, La.	6,500			
West Tulsa, Okla.	14,000	15,000	9	Holmes-Manley
		5,000	4	Pressure Coke
Lockport, Ill.	20,000	9,000	6	Holmes-Manley
		3,000	1	DeFlorez
		5,000	2	Pressure Coke
Pryse, Ky.	2,000	2,000	1	Holmes-Manley
Casper, Wyo.	7,000	6,000	5	Holmes-Manley
		1,500	1	Pressure Coke
Cody, Wyo.	3,000	1,500	1	Holmes-Manley
Craig, Colo.	1,000	1,500	1	Holmes-Manley
Sunburst, Mont.	4,500	3,000	1	DeFlorez
LaBarge, Wyo.	300			
Norfolk, Va.	1,500			
Marcus Hook, Pa.	1,500			
Providence, R. I.	1,500			
Total 19 plants	186,300	158,850	85	

THE TEXAS COMPANY (CALIFORNIA)

Location of refineries—	Daily crude capacity (bbls.)	Dly. cracking capacity (bbls.)	Cracking units No.	Cracking units Type
Los Angeles, Calif.	30,000	5,500	3	Holmes-Manley
Fillmore, Calif.	4,000	2,700	1	Cross
Total	34,000	8,200	4	
Coalinga, Calif.*	500			

*Shut down.

MEXICO GASOLINE TAX GOES UP

A recommendation of the secretary of treasury of Mexico to increase the internal tax on gasoline from 4 centavos to 6 centavos (centavo: .47 cent) per liter, 1.0567 U. S. quarts, has been approved by the chamber of deputies. It is understood, however, that the senate will cut the increase to 5 centavos, with the tax to be placed in effect this month as a portion of the 1931 budget.

VENEZUELA GASOLINE TO MEXICO

The Huasteca Petroleum Co., subsidiary of Mexican Petroleum Co., Tampico, Mexico, has imported 80,196 bbls. of gasoline from Venezuela upon which duty amounting to $282,940 was paid. This is a result of further restrictions of oil activities at Tampico, where the company has a large refinery.

OIL FREIGHT SUITS FILED

Charging that excessive freight rates have been realized in Arizona by railroad companies, Standard Oil Co. of California, Shell Oil Co., and Union Oil Co. of California, have filed suits in Federal court for recovery of alleged overcharges totaling $700,000. The Interstate Commerce Commission in 1929 held that tank car rates from California fields to points in Arizona and New Mexico were excessive and made awards for excess charges prior to August 6, 1926.

SHUT DOWN YALE PLANT

The Yale Oil Corp., of South Dakota, announces the temporary shut down of its 800-bbl. capacity skimming plant at Miles, Mont. The refinery at Billings, Mont., will continue operations, taking 2,000 bbls. of crude daily.

Western Petroleum Refiners Association Completing Program

The annual meeting of the Western Petroleum Refiners Association, March 10, 11 and 12, at Excelsior Springs, Mo., will be featured by a program of unusual scope, including papers with topics ranging from fuels and lubrication as applied to the automobile of the future, to the experiences of a prominent engineer making oil equipment installations in Russia.

The executive sessions will be concluded on the first day, and the two remaining days will be given over to meetings of the manufacturing committee of the association. Titles of the papers follow:

"Fuels and Lubricants for the Automobile of the Future," by H. C. Mougey, chief chemist of the research laboratories, General Motors Corp.; "Natural Gasoline Specifications," by S. S. Smith, manager of the gas department, Shell Oil Corp., Tulsa; "Manufacture of Grease," by F. M. Simpson, Tulsa, and C. C. Welch, Ponca City, both of the Empire Oil & Refining Co.; "New Development in Refinery Gasoline Recovery Systems," by A. W. Burket, Jackson Engineering Co., Tulsa; "Manufacture of Bright Stocks at the Wellsville Refinery," by an official of the Sinclair Refining Co., not yet named; "Vacuum Distillation of Pressure Distillates," by John Primrose, Foster Wheeler Corp., New York City. F. C. Koch, Winkler-Koch Engineering Co., New York City, will relate his experiences in Russia where he supervised the installation of equipment sold to the Soviet government.

ORGANIZE RUSK COUNTY PIPE LINE COMPANY

F. W. Burford, Charles Kolp and Frank Foster have organized the Rusk County Pipe Line Co. to purchase and transport crude oil from the new pool in Rusk County, Texas. Mr. Burford is president of the Burford Oil Co., Tulsa. Mr. Kolp, who is manager of the pipe line company, was formerly manager of the Waggoner Refining Co., Electra, Tex. Mr. Foster is a well-known independent operator in Texas.

A 4-inch line is being built connecting the field with Henderson, Tex., where a 40-car loading rack is being built along the I.&G.N. railroad. Two 80,000-bbl. tanks are being erected for storage. The company expects to be able to deliver crude oil in tank cars within 10 days.

Mr. Kolp has his headquarters at Tyler, Tex.

N. W. STELLARENE ENLARGING

The Northwest Stellarine Co. is enlarging the capacity of its refinery at Coutts, Alberta. This is a cracking plant and will resume operations March 1, when installations costing $150,000 will be completed to enable the plant to refine 1,500 bbls. daily. The Leamon process of the vapor phase type is used in cracking and is the invention of W. G. Leamon, president of the Stellarene company. The company recently purchased the Shelby Pipe Line & Refining Co. refinery at Shelby, Mont., a 2,000-bbl. daily capacity plant.

TITUSVILLE PLANT SHUT DOWN

The lubricating oil plant of the Titusville Oil Works, Titusville, Pa., which has a daily capacity of 1,000 bbls., has been shut down and the officers announce that no definite date is seen for reopening. The refinery has cracking facilities of the Fleming type with a daily capacity of 200 bbls.

STANDARD OF KENTUCKY TO HAVE NEW TERMINAL

OWENSBORO, Ky., Jan. 12.—Work is nearly completed on the $150,000 Owensboro terminal of the Standard Oil Co. of Kentucky, which is being built on the north side of Highway No. 60, a short distance east of Owensboro, according to the Messenger-Inquirer. The company plans to move to the new plant from the office and warehouse location at Fourteenth and Daviess Streets.

The new plant is one of four terminals which the company has planned for Kentucky, the other locations being Louisville, Paducah and Ashland. From these terminals the territory nearest each will be supplied with oil products by rail and trucks. Each terminal point, being located along the Ohio River, will receive most of its bulk shipments by river, thus eliminating long rail hauls.

It is understood here that the Standard Oil Co. of Kentucky is planning to reopen its refinery at Louisville and refine oil from the Owensboro Field, which may be shipped to Louisville in the barges which would be emptied of gasoline and kerosene here. With the Louisville refinery in operation, it is pointed out, Kentucky could find a home market for its oil and the company would have shorter hauls to supply the market.

The new plant, when completed, will consist of a main office and storage buildings, a large garage, a filling station, a pump house and a residence. In addition to these buildings, tanks will be installed with a combined capacity of 1,000,000 gallons of gasoline and oils.

Pipe lines are being built from the storage tanks to the river so that barges may pump their cargoes directly into the storage tanks. A railroad spur line has been built to the new plant with pipes arranged conveniently for loading and unloading tank cars. It is probable that a service station for boats will be built on the company's barge dock, boat owners in this section having suggested the matter to B. M. Jones, Owensboro territory agent.

Work was started on the plant in September and good progress has been made. Finishing touches will not be made until around March, according to H. A. Fleming, of Hickman, construction superintendent. All local labor has been used on the job and supplies were purchased from Owensboro concerns.

The city of Owensboro has purchased the ground and buildings now used by the company and will use them for storing supplies and equipment of the municipal light plant.

COMBINATION CRACKING FOR MISKO, INC. PLANT

The Misko Refineries, Inc., have completed the installation of a combination vapor and liquid phase cracking plant at their Mirando, Tex., refinery. The plant is of the pipe still type and presents the latest design, especially in regard to control features.

Mirando crude is processed to produce a 400 endpoint gasoline which contains antiknock properties of exceptionally high benzol equivalent, making it especially valuable in blending with gasoline of low antiknock value. Special naphthas are also produced. Emil Geppelt, Jr., of San Antonio, Tex., was in charge of construction.

DR. CURTIS IS RESEARCH CHIEF

Dr. Harry A. Curtis, chairman of the division of chemistry and chemical technology of the National Research Council, has been appointed chief of the research laboratories of the Vacuum Oil Co.

The nitrogen survey made in 1923 for the United States Department of Commerce brought Doctor Curtis wide recognition. In the same year he became professor of chemical engineering at Yale University. In 1926 President Coolidge appointed Doctor Curtis a member of the Muscle Shoals inquiry, and he has since been consulted on a number of important national problems.

SIX HYDROGENATION PLANTS IN OPERATION WITHIN SIX MONTHS

By W. T. Ziegenhain

Before the first half of 1931 passes, the Standard Oil Co. of New Jersey and its subsidiaries, the Standard Oil Co. of Louisiana and the Humble Oil & Refining Co., expect to have six hydrogenation units operating. Two each of these are located at the Bayway, N. J., Baton Rouge, La., and Baytown, Tex., refineries. The operation of the units will be directed by a common head for the purpose of perfecting all phases of the process in the least possible time, but each company will investigate several or all of the possibilities offered. One of these is the manufacture of motor oils. This will be thoroughly investigated as one of the most promising of the proposed uses for the process. Lubricating oils of an exceptionally favorable viscosity index have been prepared when operating on a semicommercial scale and sufficient laboratory and semicommercial work has been carried out in the dewaxing of such oils to make their full commercial preparation practicable. An elaborate system of recording costs has been prepared and as the process is perfected the true commercial possibilities of the process will be learned.

In addition to being able to manufacture motor lubricants of a higher quality than those now available, considering the combination of such characteristics as viscosity index, flash, carbon residue, etc., two other important possibilities will be developed simultaneously. One unit in each of these plants will be placed in experimental service for the manufacture of high antiknock motor fuels. Because of the flexibility offered by the process permitting any concentration of hydrogen in the hydrocarbon-hydrogen mixture, a wide temperature range and wide pressure range, any desired type of hydrocarbon may be prepared consequently that group of hydrocarbons falling in the normal boiling range of gasoline, possessing the highest antiknock value will be sought. It will be possible to subtract hydrogen as well as add hydrogen.

This program is being formulated, not so much for use in the ordinary high compression motors of the present day, for there are gasolines now on the market that will serve adequately but the work is in preparation for a demand for base fuels of a higher antiknock value than may be prepared by any known process. The need for such fuels is suggested now, only in special cases, such as in the specifications on the fighting grade of aviation gasoline. The Government there permits the addition of 6 cc. of tetraethyl lead to the motor fuel in order to be assured of satisfactory performance with the high compression motors on the fighting ships.

Higher compression motors have been definitely accepted as more efficient machines and it is the opinion of those companies interested in the development of the hydrogenation process that such engines will gradually come into more general use, and, because of the limitation allowing only 3 cc. of tetraethyl lead in gasoline sold for general use it will be necessary to provide a base fuel of higher antiknock value than that now readily available. The companies for that reason believe they are fully justified in investigating the possibilities of this process in this respect.

Preparation of Kerosene

The third and very important use, is in the preparation of sulphur-free burning oils. Kerosene, as an example, when made by this process is void of sulphur which causes incrustation of the wick which in turn brings about incomplete combustion and smoking. In a similar manner, special naphthas such as cleaners naphtha and painters naphtha may be ridden of the objectionable sulphur and sulphur compounds.

The removal of the sulphur is done by simply contacting the hydrocarbon and the hydrogen under predetermined conditions of temperature and pressure and in the presence of a catalyst so the hydrogen will unite with the sulphur present to yield hydrogen sulphide which is later removed from the reaction zone along with the excess hydrogen, leaving a sulphur-free residue.

At the present time only two of the six units are in operation, these being located in the Bayway refinery of the Standard Oil Co. of New Jersey. Before the middle of April the Standard Oil Co. of Louisiana expects to have its two units in operation and in May or early in June the two units at the Humble Oil & Refining Co. refinery in Baytown is expected to be operating. The Standard of Louisiana construction program was the first to start, beginning more than a year ago, but was held up as a result of a revision in construction details left to be worked out in the Bayway plant. Each of these units has an average charging capacity of 2,500 bbls. daily providing a combined capacity of 15,000 bbls. daily.

NEW COMPANY TO REOPEN PEERLESS PLANT FEB. 1

Organization of a company to operate the recently acquired properties of the defunct Peerless Oil & Refining Co., at Chanute, Kans., is being completed by Lloyd D. Burton, purchaser, and his associates.

This refinery, sold through the office of the referee in bankruptcy for $110,000, has a daily capacity of 2,500 bbls. of crude oil. The refinery also has Jenkins cracking units. It will be in operation by February 1, and will take crude from the nearby fields. There are 4,000 wells in this vicinity and Burton has conferred with officials of the Prairie Pipe Line Co. for outlet arrangements.

Mr. Burton is well known in Chanute and has announced that as many of the former employes as possible will be called back to work. The plant has been idle since bankruptcy proceedings were brought in August, 1930.

PENNZOIL COMPANY TO GIVE REFINERY COURSE

More than 100 refinery workers of the Pennzoil Co., Oil City, Pa., will be given an opportunity to learn about the operations outside of their duty in the plant when a special course of instruction is opened soon. There will be a 2-hour lecture one night each week. T. D. Fulton, refinery superintendent, is in charge of the course.

The following studies are included in the course: Crudes of Pennsylvania; physical properties of crude and the products with their significance; origin of petroleum, its chemical makeup and differences in crudes; distillation, stills of various types and their relative merits; theory of fractionation, theory of tower operation and auxiliary equipment; distillates, cracking, blending and testing methods.

START EXPERIMENTAL UNIT

EL DORADO, Ark., Jan. 11.—An experimental cracking unit, designed by R. J. McRea, and employing electricity as the medium for breaking down the heavier hydrocarbons into simpler ones, has been completed at the local plant of the Root Refining Co. and preliminary runs will be made within the next week.

The new unit was designed for experimental use only but was built on a semicommercial scale to test the accuracy of laboratory findings. Mr. McRea and his associates are supervising the construction of the plant and will have charge of its operation with the view in mind of perfecting the process at the Root refinery.

PLAN LARGER FILTER HOUSE

The Franklin Creek Refining Corp. is planning to enlarge the filter house at their Franklin, Pa., lubricating oil plant which has a daily capacity of 1,000 bbls. of crude oil.

APPOINT BLAKESLEE HEAD OF ACCIDENT PREVENTION

A department of accident prevention formally was inaugurated January 1, 1931, by the American Petroleum Institute. H. N. Blakeslee, safety engineer, will be in charge with headquarters in Room 1508, Kirby Building, Dallas, Tex.

The work of the department will be four-fold. It will develop and prepare for publication, as A.P.I. manuals on accident prevention, information suitable for use in instructing oil company employes. It will co-operate with all institute committees and other organizations on accident prevention problems, and particularly will assist in the solution of accident prevention problems in the petroleum industry. The department also will encourage accident prevention precautions and the keeping and reporting by all oil companies of accident records.

Names of three existing divisional committees on safety will, if agreeable to the committees concerned, be changed to committee on accident prevention in oil fields, committee on accident prevention in refineries and committee on accident prevention in marketing. Mr. Blakeslee will serve as secretary of all three groups, which are standing committees with members appointed annually by the chairmen of the divisional general committees.

These committees will be primarily responsible for the preparation of manuals on accident prevention, for the review and criticism of preliminary drafts and for the recommendation to respective general committees of publication of final drafts. The committees also will be advisory in the conduct of the department of accident prevention.

WESTERN REFINERY NEARS COMPLETION AT WINNIPEG

CHATHAM, Ontario, Jan. 10.—Construction work is reported to be well advanced on the new refinery of Western Independent Refiners, Ltd., at Winnipeg. This company is successor to Radio Oil & Gas Co., Ltd., and is financed entirely by local capital. Ben Hechter, president, and Max Hechter, vice president, have been in business for several years distributing petroleum products in Winnipeg.

Don J. Baize, formerly of the Continental Oil Co. and of the H. F. Wilcox Oil & Gas Co. of Oklahoma has been engaged as refinery superintendent and is in charge of construction. The refinery site is at Watt and Munroe streets, East Kildonan. The plant will have 2,500-bbl. capacity and involves an initial outlay of approximately $250,000. Crude oil will be brought from the United State by tank cars. The plant is expected to be in operation by February 15.

DAYSON TO START CONSTRUCTION

EL DORADO, Ark., Jan. 11.—The Dayson Petroleum Co. expects to start the construction of a 300-bbl. refinery within the next week, to be located between El Dorado and Smackover, Ark. This plant will completely refine the local crude to a high antiknock gasoline, lubricants and asphalt. The process is said to include the use of a partial vacuum in reducing the residue to asphalt and as a result, a product of high ductility may be made.

Mr. Dayson, president of the company and originator of the process has made tentative plans for building similar units at other points where suitable crudes are available and where a local market may be found for the products. The operation of the plant is expected to be handled by an unusually small number of men.

STABILIZER NEAR COMPLETION

The White Star Refining Co., at its Trenton, Mich., refinery, will complete a stabilizer plant for Dubbs pressure distillate, April 1. The cracking capacity of the Dubbs unit at the Trenton refinery is 3,900 bbls. daily.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

	Jan. 13		Jan. 6		Dec. 30	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.04	.04¼	.04	.04¼	.04¼	
56-58 450 endpoint	.04	.04¼	.04	.04¼	.04	.04⅛
58-60 437 endpoint (U. S. Motor)	.04¼	.05	.04⅛	.05	.04	.05
60-62 437 endpoint	.04¼	.05	.04⅛	.05	.04⅛	.05
60-62 400 endpoint	.04⅜	.05¼	.04¼	.05	.04¼	.05¼
64-66 375 endpoint	.04⅝	.05½	.04¼	.05½	.04⅝	.05½
68-70 360 endpoint	.05	.05¼	.05	.05¼	.05	.05¼
64-66 437 endpoint (blend)	.04	.04½	.04	.04½	.04¼	.04½
NORTH TEXAS—						
50-52 450 endpoint	.04		.04		.04	
58-60 450 endpoint	.03⅞	.04	.03¾	.04	.03⅞	.04
58-60 437 endpoint (U. S. Motor)	.04⅛	.04½	.04	.04½	.04	.04½
60-62 400 endpoint	.04¼	.04½	.04¼	.04½	.04¼	.04½
64-66 390 endpoint	.04½	.04¾	.04½	.04¾	.04½	.04¾
64-66 375 endpoint	.04¾	.05	.04¾	.05	.04¾	.05
68-70 360 endpoint	.05	.05¼	.05	.05¼	.05	.05¼
64-66 437 endpoint (blend)	.04	.04½	.04	.04½	.04	.04½
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.04¾	.05¼	.04¾	.05¼	.04¾	.05¼
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.04¾	.05	.04¾	.05	.04¾	.05
PENNSYLVANIA—						
52-54 Naphtha	.06		.06		.06	
54-56 Naphtha	.06	.06¼	.06		.06	
58-60 Gasoline	.06¼	.06½	.06¼	.06½	.06¼	.06½
60 Gasoline	.06½	.06¾	.06½		.06½	
62 Gasoline	.06¾	.07	.07		.07	
64 Gasoline	.07	.07¼	.07	.07½	.07	.07½
68-70 350 endpoint gasoline	.07¾		.07¾		.07¾	
CALIFORNIA—						
†54-58 437 endpoint (U. S. Motor) domestic	.06½	.06¾	.06½	.08¾	.06½	.08¾
†58-62 400 endpoint domestic gasoline	.08	.09¼	.08	.09¼	.08¼	.10
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.04		.04		.04	
56-58 450 endpoint	.04	.04¼	.04	.04½	.04	
58-60 437 endpoint (U. S. Motor)	.04¼	.04¾	.04½	.04½	.04	.04½
60-62 400 endpoint	.04⅜	.04¾	.04½	.04¾	.04¼	.04¾
64-66 375 endpoint	.04¾	.05¼	.04¾	.05¼	.05¼	.05½
64-66 437 endpoint (blend)	.04½	.04½	.04½	.04⅝	.04½	.04⅝
68-70 360 endpoint	.05¼	.05½	.05¼	.05½	.05½	.06
GULF COAST (Export)—						
58-60 U. S. Motor	.05½	.05¼	.05¼	.05¼	.05¼	.05¼
60-62 400 endpoint	.05½		.05½		.05½	
61-63 390 endpoint	.05¾		.05¾		.05¾	
64-66 375 endpoint	.06		.06		.06	

*Louisiana, Arkansas, Mississippi and East Texas delivery. †For local consumption.

NATURAL GASOLINE

	Jan. 13		Jan. 6		Dec. 30	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.03½		.03¼		.03¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.03¼		.03		.03	
Grade B, 76-83.9, 375 e.p., rec. 85%	.02¾		.02¾		.02¾	.03
Grade BB, 84-92, 375 e.p., rec. 85%	.02½		.02½		.02¾	
Grade C, 80-92, 375 e.p., rec. 78%	.02½		.02½		.02¾	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.03½		.03¼		.03¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.03¼		.03		.03	
Grade B, 76-83.9, 375 e.p., rec. 85%	.02¾		.02¾		.02¾	
Grade BB, 84-92, 375 e.p., rec. 85%	.02½		.02½		.02¾	
Grade C, 80-92, 375 e.p., rec. 78%	.02½		.02½		.02¾	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.03½		.03¼		.03¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.02¾		.02¾		.03	
Grade C, 80-92, 375 e.p., rec. 78%	.02¾		.02¾		.03	
CALIFORNIA—						
75-78 375-390 endpoint	.05	.06	.05	.06	.05¾	.06½
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.03	.03¼	.03¼		.03¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.03	.03¼	.03		.03	
Grade BB, 84-92, 375 e.p., rec. 85%	.02¾	.03	.02½		.02¾	

BURNING OIL

	Jan. 13		Jan. 6		Dec. 30	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.03	.03¼	.03	.03¼	.03	.03¼
42-44 water white kerosene	.03¼	.03¾	.03¼	.03¾	.03¼	.03¾
NORTH TEXAS—						
41-43 water white kerosene	.03	.03⅛	.03	.03⅛	.03	.03⅛
40-41 water white kerosene	.02⅞	.03	.02⅞	.03	.02⅞	.03
***NORTH LOUISIANA—**						
41-43 water white kerosene	.03¾	.04	.03¾	.04	.03¾	.04
***ARKANSAS—**						
41-43 water white kerosene	.03¾	.04	.03¾	.04	.03¾	.04
PENNSYLVANIA—						
43 Kerosene prime white	.05		.05		.05	
45 Kerosene water white	.05¼		.05¼		.05⅛	.05¼
46 Kerosene water white	.05½		.05½	.05¾	.05½	
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.05	.06	.05	.06	.05	.06
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.03	.03¼	.03	.03¼	.03	.03¼
42-44 water white kerosene	.03¼	.03½	.03¼	.03½	.03¼	.03½
GULF COAST (Export)—						
41-43 prime white	.04¼		.04¼		.04¼	
41-43 water white	.05¼		.05¼		.05¼	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	Jan. 13		Jan. 6		Dec. 30	
OKLAHOMA (Group 3)—						
Below 18 gravity Fuel Oil, per bbl.	.40	.50	.40	.50	.40	.50
18-22 Fuel Oil, per bbl.	.47½	.55	.47½	.55	.47½	.55
20-22 Fuel Oil, per bbl.	.50	.60	.50	.60	.50	.60
22-26 Fuel Oil, per bbl.	.55	.65	.55	.65	.55	.65
24-26 Fuel Oil, per bbl.	.65	.70	.65	.70	.65	.70
26-30 Fuel Oil, per bbl.	.70	.75	.70	.75	.70	.75
28-30 Fuel Oil, per bbl.	.80	.90	.80	.90	.80	.90
32-36 Gas Oil (industrial)	.02	.02¼	.02	.02¼	.02	.02¼
32-36 Gas Oil (straw color, high cold test)	.02¼	.02½	.02¼	.02½	.02¼	.02½
32-36 Gas Oil (straw color, low cold test)	.02⅝	.02⅞	.02⅝	.02⅞	.02⅝	.02⅞
36-38 Distillate	.02¾	.02⅞	.02¾	.02@	.02¾	.02⅞
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03
NORTH TEXAS—						
Below 20 gravity Fuel Oil, per bbl.	.30	.40	.30	.40	.30	.40
24-26 Fuel Oil, per bbl.	.50	.60	.50	.60	.50	.60
32-36 Gas Oil (industrial)	.02	.02¼	.02	.02¼	.02	.02¼
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.70	.75	.70	.75	.75	.80
30-32 Gas Oil (low cold test)	.02⅞	.03	.02⅞	.03	.02⅞	.03
***ARKANSAS—**						
33-36 Distillate	.02¾	.03	.02¾	.03	.02¾	.03
30-32 Gas Oil	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02¾
16-22 Refinery Fuel Oil, per bbl.	.60	.65	.60	.65	.60	.65
GULF COAST (South Texas)—						
Gas Oil	.03⅛	.03¼	.03⅛	.03¼	.03½	.03¾
Bunker C Fuel (cargo lots), per bbl.	.65	.70	.65	.70	.67½	.75
Bunker C Fuel (small lots)	.90		.90		.90	
PENNSYLVANIA—						
30-34 Fuel Oil	.03½		.03½		.03¼	.03½
36-40 Fuel Oil	.03½		.03½		.03½	
CALIFORNIA—						
33-36 Distillate	.02	.02½	.02	.02½	.02	.02½
26-32 Distillate	.01¾	.02	.01¾	.02	.01¾	.02
15-19 Fuel Oil, Bunker (at tidewater), bbl.	.55	.90	.55	.90	.55	.75
15-19 Fuel Oil (cargo lots, at tidewater), bbl.	.50	.80	.50	.80	.50	.80
†15-19 Fuel Oil, f.o.b. tank cars	.25	.70	.25	.70	.25	.50
27 plus Diesel, per bbl.	.80	1.05	.80	1.05	.80	1.00
30-34 Gas Oil	.85	1.05	.85	1.05		
CHICAGO DISTRICT (Based on Group 3)—						
18-22 Fuel Oil, per bbl.	.57½	.62½	.57½	.62½	.55	.62½
22-26 Fuel Oil, per bbl.	.60	.65	.60	.65	.57½	.62½
28-30 Fuel Oil, per bbl. (zero)	.90	.95	.90	.95	.90	.95
32-36 Gas Oil (industrial)	.02	.02⅛	.02⅛	.02¼	.02⅛	.02¼
32-36 Gas Oil (zero)	.02½	.02⅞	.02½	.02⅞	.02½	.02¾
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03

*Louisiana, Arkansas, Mississippi and East Texas delivery. †Lowest priced fuel oil has high sulphur content.

LUBRICATING OIL AND WAX

	Jan. 13		Jan. 6		Dec. 30	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.05	.05½	.05	.05½	.05	.05½
100 vis., 3 color, 20-25 cold test	.04¾	.05	.04¾	.05	.04¾	.05
150 vis., 3 color, 20-25 cold test	.07		.07		.07	
150 vis., 4 color, 20-25 cold test	.06½		.06½		.06½	
180 vis., 3 color, 23-28 cold test	.08½		.08½		.08½	
180 vis., 4 color, 23-28 cold test	.08		.08		.08	
180 vis., 5 color, 23-28 cold test	.07¼	.07½	.07¼	.07½	.07¼	.07½
200 vis., 3 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
200 vis., 4 color, 23-28 cold test	.09½		.09½		.09½	
200 vis., 5 color, 23-28 cold test	.09		.09		.09	
240 vis., 3 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 4 color, 25-30 cold test	.12¼	.12½	.12¼	.12½	.12¼	.12½
240 vis., 5 color, 25-30 cold test	.11¼	.11½	.11¼	.11½	.11¼	.11½
280 vis., 3 color, 25-30 cold test	.15½		.15½		.15½	
280 vis., 4 color, 25-30 cold test	.14½		.14½		.14½	
280 vis., 5 color, 25-30 cold test	.13½		.13½		.13½	
Cylinder Stocks:						
600, steam refined, light green	.07	.08	.07	.08	.07	.08
600, steam refined, dark green	.04½	.05½	.04½	.05½	.04½	.05½
190-200 vis., D color, Bright Stocks	.25		.25		.25	
150-160 vis., D color, Bright Stocks 0-10 c.t.	.19	.20	.19	.20	.19	.20
150-160 vis., D color, Bright Stocks 10-25 c.t.	.18	.19	.18	.19	.18	.19
150-160 vis., D color, Bright Stocks 25-40 c.t.	.17½	.18½	.17½	.18½	.17½	.18½
150 vis., E color, Bright Stocks	.17	.18	.17	.18	.17	.18
Waxes:						
124-126 White Crude Scale Wax	.02	.02⅛	.02	.02⅛	.02	.02⅛

All bright stock prices are for domestic movement.

PENNSYLVANIA—						
34 Neutral	.05½	.06	.05½	.06	.05½	
34 Sundebloom	.05½	.06	.05½	.06	.05½	.06
36 Miners' Neutral	.04	.06	.04	.06	.04	.06
150, 3 color	.11½	.12	.11½	.12	.11	.12
180, 3 color	.15	.15½	.15	.15½	.15	
200, 3 color	.17½	.18½	.17½	.18½	.16½	.18
220, 3 color	.20	.20½	.20	.20½	.20	.21
600, steam refined	.09		.09		.09	.09¼
650, steam refined	.13½	.14½	.13½	.14½	.13½	.14½
600, Pennsylvania Flash	.14½	.16½	.14½	.16½	.14½	.16½
630, Pennsylvania Flash	.22	.23	.22	.23	.22	.23
600, E filtered	.14	.15	.14	.15	.15	
600, D filtered, Oil City	.18	.19	.18	.19	.19	
Pennsylvania Bright Stocks below 35 C.T.	.19	.21	.19	.21	.19	
Pennsylvania Bright Stocks above 35 C.T.	.17		.17		.17	
*122-124 White Crude Scale Wax	.02½	.02⅝	.02½	.02⅝	.02⅝	
124-126 White Crude Scale Wax	.02⅝		.02⅝		.02⅝	

*At New York.

GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.06	.06¼	.06	.06¼	.06	.06¼
200 vis., 3 color, pale oil	.08¼	.08½	.08¼	.08½	.08¼	.08½
300 vis., 3 color, pale oil	.09½	.09¾	.09½	.09¾	.09½	.09¾
500 vis., 3½ color, pale oil	.10¾	.11	.10¾	.11	.10¾	.11
750 vis., 3½ color, pale oil	.12¼	.12½	.12¼	.12½	.12¼	.12½
1,200 vis., 3½ color, pale oil	.14¾	.15	.14¾	.15	.14¾	.15
2,000 vis., 4 color, pale oil	.15¾	.16	.15¾	.16	.15¾	.16
200 vis., 5-6 color, red oil	.07½	.07¾	.07½	.07¾	.07½	.07¾
300 vis., 5-6 color, red oil	.08¾	.09	.08¾	.09	.08¾	.09
500 vis., 5-6 color, red oil	.10	.10¼	.10	.10¼	.10	.10¼

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

750 vis., 5-6 color, red oil	.11½	.11¾	.11½	.11¾	.11½	.11¾
1,200 vis., 5-6 color, red oil	.13¾	.14	.13¾	.14	.13¾	.14
2,000 vis., 6 plus color	.15¾	.16	.15¾	.16	.15¾	.16
CALIFORNIA—						
130 vis., 2½-3 color	.09	.09½	.09	.09½	.09	.09½
200 vis., 2½-3 color	.10	.10¾	.10	.10¾	.10	.10¾
300 vis., 3-3½ color	.10¾	.11½	.10¾	.11½	.10¾	.11½
350 vis., 3½-4 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
400 vis., 3½-4 color	.12¼	.12¾	.12¼	.12¾	.12¼	.12¾
Red Neutral:						
200 vis., 4½-5 color	.09½	.10	.09½	.10	.09½	.10
300 vis., 5-6 color	.10¼	.10¾	.10¼	.10¾	.10¼	.10¾
400 vis., 5-6 color	.11	.12	.11	.12	.11	.12
500 vis., 4½-5 color	.12¼	.13	.12¼	.13	.12¼	.13
500 vis., 5-6½ color	.12	.12¾	.12	.12¾	.12	.12¾
600 vis., 6½ plus color	.13	.14	.13	.14	.13	.14

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Jan. 13		Jan. 6		Dec. 30	
Gasoline, U. S. Motor, 58-60, 437 e.p.	.07		.07	.07½	.06¼	.06½
Kerosene, water white, 41-43	.06¼	.06½	.06	.06½	.06	.06½
*Fuel Oil, Bunker "C," 41-43	1.05		1.05		1.05	
†Fuel Oil, Diesel, 28-30, per bbl.	1.85		1.85		1.85	
Gas Oil, 28 gravity plus	.04¼	.05¼	.04¼	.05¼	.04¼	.05¼
25 pale Paraffin Oil, tank car	.10¼		.10¼		.10¼	
28 pale Paraffin Oil, tank car	.07¼		.07¼		.07¼	
280 red Paraffin Oil, tank car	.12½		.12½		.12½	
250 red Paraffin Oil, tank car	.11½		.11½		.11½	
225 red Paraffin Oil, tank car	.10		.10		.10	
200 red Paraffin Oil, tank car	.09¼		.09¼		.09¼	
Domestic heating oil, min. 32 grav., tank car	.04½		.04½		.04½	
Refined Wax:						
120-122 a.m.p., per lb.	.03		.03		.03	
125-127 a.m.p., per lb.	.03¼		.03¼		.03¼	
130-132 a.m.p., per lb.	.03⅝		.03⅝		.03⅝	
133-135 a.m.p., per lb.	.04¼		.04¼		.04¼	
135-137 a.m.p., per lb.	.04⅝		.04⅝		.04⅝	
Petrolatum in barrels, in carload lots, per pound:						
Dark Green	.01¾		.01¾		.01¾	
Amber	.03¼		.03¼		.03¼	
Extra Amber	.03⅜		.03⅜		.03⅜	
Cream	.06		.06		.06	
Lily White	.06¾		.06¾		.06¾	
Snow White	.08		.08		.08	

*Lighterage 5 cents a barrel extra. †Lighterage 6.5 cents a barrel.

NEW YORK (BAYONNE) EXPORT PRICES

	Jan. 13	Jan. 6	Dec. 30
600, steam refined cylinder stocks, in bbls.	.16½	.16½	.16½
635, steam refined	.18½	.18½	.18½
650, steam refined	.23	.23	.23
600, Pennsylvania Flash	.23½	.23½	.23½
650, Pennsylvania Flash	.29½	.29½	.29½
600, Warren E	.23	.23	.23
600, Oil City E	.22	.22	.22
Light 140-150 Bright Stocks	.26	.26	.26
Dark 140-150 Bright Stocks	.24	.24	.24

LOS ANGELES EXPORT PRICES

	Jan. 13		Jan. 6		Dec. 30	
Kerosene, water white	.04¾	.06	.04¾	.06	.04¾	.06
*U. S. Motor Gasoline, 53-55, 437 e.p.	.04¾	.07	.04¾	.07	.04¾	.07
*62-62, 400 endpoint gasoline	.07	.08¼	.07	.08¼	.07	.08¼

*For coastwise and off-shore shipments.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Corsicana heavy (Oct. 28) .....$ .75
Other fields.....See gravity table

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties.....See gravity table

WEST TEXAS

Iatan*.....Same as North Texas
Crane-Upton-Crockett, Howard and Glasscock, Mitchell and Ector.....
.....See gravity table, Column 3
Pecos and Winkler.....
.....See gravity table, Column 9
Chalk† (April 10, 1930).....$ .75

*Includes Westbrook Field. †Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover (all grades) (Oct. 30, 1930).$ .70
Carterville, Sarepta and Cotton Valley, below 36 gravity.....See gravity table
Bellevue (Oct. 30, 1930)..... 1.00
Urania (Oct. 30, 1930)..... .75
Calion, heavy (Oct. 30, 1930)..... .70
East El Dorado (Oct. 30, 1930)..... .70
Other fields.....See gravity table

Note—Smackover and Bellevue posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado posted by Gulf Refining Co. and Magnolia Petroleum Co. Calion posted by Gulf Refining Co.

GULF COAST

Grade A (Oct. 28, 1930)*.....$1.00
Grade B, 25° and upward...See gravity table
Jennings, La. (Oct. 30, 1930)†..... .80
Refugio (light).....Same as Grade B
Refugio (heavy) (Oct. 28, 1930)*..... .75
Markham (Oct. 28)‡..... .85
High Island (Oct. 30, 1930)†..... .75

*Humble Oil & Refining Co. †Gulf Refining Co. of Louisiana. ‡Texas Pipe Line Co.

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.

Iles (Feb. 15, 1930).....$ .87
33 gravity and above..... .87
Under 33 gravity..... .65
Dutton Creek (Oct. 28, 1930)..... 1.01
Rock Creek, Wyo. (Oct. 28, 1930)..... 1.01
Salt Creek.....See gravity table
Big Muddy (Oct. 28, 1930)..... 1.00
Grass Creek, heavy (July 27, 1928)..... .90
Grass Creek, light (Oct. 28, 1930)..... 1.25
Mule Creek (May 21, 1929)..... 1.20
Elk Basin (Oct. 28, 1930)..... 1.25
Lance Creek (Oct. 28, 1930)..... 1.33
Poison Spider (Mar. 14, 1927)..... 1.00
Notches (Mar. 14, 1927)..... .65
Dallas-Derby (Jan. 1, 1931) ..... .70
Hudson (Jan. 1, 1931) ..... .75
Rex Lake (Feb. 22)..... 1.10
Osage (Nov. 1, 1930)..... .85
Lost Soldier (Oct. 28, 1930)..... .80
Hamilton Dome (Mar. 14, 1927)..... .85
Greybull (Oct. 28, 1930)..... 1.25
Torchlight (Oct. 28, 1930)..... 1.25
Cat Creek (Oct. 28, 1930)..... 1.25
Pondera (Montana) (Oct. 28, 1930)..... 1.45
Sunburst (Montana) (Oct. 28, 1930)..... 1.55
Hogback (Feb. 15, 1930)..... 1.40
Artesia (New Mexico) (Oct. 28, 1930)... .75
Lea County.....See gravity table
Border, Mont. 1.55
Red Coulee, Alberta..... 1.55

Note—Salt Creek, Osage, Cat Creek, Dallas-Derby, Hudson, Greybull and Hog-

(Continued on Page 176)

CRUDE OIL GRAVITY TABLE

Gravity—	1 Oklahoma-Kansas, N. C. Texas	2 North La.-Ark.	3 Crane, Upton, Ector, Crockett, Howard, Glasscock, Mitchell (West Texas), Lea, N. M.	4 Wheeler County (Texas Panhandle)	5 Gray County (Texas Panhandle)	6 Carson and Hutchinson (Texas Panhandle)	7 Salt Creek, Wyo.	8 Stephens, Ark.	9 Pecos-Winkler (West Texas)	10 Grade B Gulf Coast and Refugio, Texas.
Below 25	....	....	.50	....	....	....	....	....	.55	.75
25 to 25.9	....	....	.52	....	....	....	....	....	.57	.92
26 to 26.9	....	....	.54	....	....	....	....	....	.59	.94
27 to 27.9	....	....	.56	....	....	....	....	....	.61	.96
28 to 28.9	....	....	.58	....	....	....	....	....	.62	.98
Below 29	.65	.65	....	....	.50	.45	....	.54	....	....
29 to 29.9	.69	.69	.60	....	.54	.45	.69	.58	.65	1.00
30 to 30.9	.73	.73	.62	....	.58	.53	.73	.62	.67	1.02
31 to 31.9	.77	.77	.64	....	.62	.57	.77	.66	.69	1.04
32 to 32.9	.81	.81	.66	....	.66	.61	.81	.70	.71	1.06
33 to 33.9	.85	.85	.68	....	.70	.65	.85	....	.73	1.08
34 to 34.9	.89	.89	.70	....	.74	.69	.89	....	.75	1.10
35 to 35.9	.92	.92	.72	....	.77	.72	.92	....	.77	1.12
36 to 36.9	.95	.95	.74	....	.80	.75	.95	....	.79	1.14
37 to 37.9	.98	.98	....	....	.83	.78	.98	....	....	1.16
38 to 38.9	1.01	1.01	....	....	.86	.81	....	....	....	1.18
39 to 39.9	1.04	1.04	....	....	.89	.84	....	....	....	1.20
40 and above	1.07	1.07	....	....	.92	.87	....	....	....	1.22

Column 1—Carter Oil Co. posted above prices for Oklahoma and Kansas on October 28. Humble Oil & Refining Co. posted same for North Central Texas on October 28. Magnolia Petroleum Co. posted same for Kansas, Oklahoma and North Central Texas on October 27 from 29 degrees upward, but posted below 26 degrees at 53 cents; 26-26.9 degrees at 57 cents; 27-27.9 degrees at 61 cents; 28-28.9 degrees at 65 cents. Stanolind Crude Oil Purchasing Co. on November 1 adopted the schedule as listed in table; Prairie Oil & Gas Co. adopted the same on November 1, other companies following. North Central Texas, for the purpose of this table, includes North Texas, Ranger district, Mexia, Powell, Richland, Wortham, Van, Lytton Springs, Currie, Nocona, Moran and Corsicana (light oil). Prairie Oil & Gas Co. ceased purchasing crude oil at the close of business December 31, 1930. The Tidal Refining Co. and Pure Oil Co. began posting prices on January 1, 1930, in Oklahoma.

Column 2—The Texas Company posted above prices on Caddo and Red River crude, up to 39-39.9 degrees. It also posted 40-40.9 degrees at $1.07; 41-41.9 degrees at $1.10; 42-42.9 degrees at $1.13; 44-44.9 degrees at $1.16, and 44 degrees and above $1.19. Standard Oil Co. posted schedule as listed in table on October 30; Magnolia Petroleum Co. on October 30 posted prices as listed, starting at 29 degrees, but posted below 26 degrees, 53 cents; 26-26.9 degrees, 57 cents; 27-27.9 degrees, 61 cents; 28-28.9 degrees, 65 cents. Louisiana Oil Refining Co. adopted Standard of Louisiana prices on October 30. North Louisiana and Arkansas fields included in table are Caddo, Bull Bayou, Crichton, DeSoto, Haynesville, Homer, Cotton Valley, Sarepta-Carterville, El Dorado and Rainbow.

Column 3—Posted by Humble Oil & Refining Co. on October 28.

Column 4—Companies quit posting April 10, but crude takes present Hutchinson-Carson prices.

Column 5—Humble Oil & Refining Co., Magnolia and Prairie, October 28. Prairie ceased posting and purchasing in all Panhandle fields November 27.

Column 6—Humble Oil & Refining Co., October 28.

Column 7—Midwest Refining Co. on October 28. All crude over 37 degrees 98 cents.

Column 8—Louisiana Oil & Refining Co. and Atlantic Oil Producing Co., October 30.

Column 9—Humble Oil & Refining Co., October 28.

Column 10—Humble Oil & Refining Co., October 28. On October 30, Gulf Refining Co. of Louisiana and Gulf Pipe Line Co. of Texas posted as follows for Grade B: Below 25 degrees, 69 cents; 25-25.9 degrees, 71 cents, with a 2-cent differential for each degree upward to and including 40 degrees and above at $1.01. The Texas Company adopted above schedule November 1.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co. (effective September 15, 1930), Union Oil Co. (effective September 15, 1930)

Gravity—	1 Long Beach, Seal Beach, Alamitos Hts., Huntington Beach, Inglewood, Torrance, Richfield, Olinda, Brea Canyon	2 Whittier, La Habra, Coyote Hills	3 Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	4 Montebello	5 Santa Fe Springs	6 Santa Maria, Coalinga	7 Wheeler Ridge	8 Orcutt, Ventura, Rincon	9 Ventura Avenue	10 Elwood Terrace	11 Athens, Rosecrans, Dominguez
14 to 14.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
15 to 15.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
16 to 16.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
17 to 17.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
18 to 18.9	.76	.76	.62	.71	....	.62	.62	.65	.76	....	....
19 to 19.9	.82	.82	.70	.77	....	.70	.70	.75	.82	....	....
20 to 20.9	.88	.87	.78	.83	....	.78	.78	.78	.88	....	....
21 to 21.9	.94	.93	.86	.90	.92	.86	.86	.90	.91	....	....
22 to 22.9	1.00	.98	.94	.97	.95	.94	.94	.95	.94	....	....
23 to 23.9	1.07	1.04	1.02	1.05	1.01	1.02	1.02	1.02	1.00	....	....
24 to 24.9	1.12	1.08	1.06	1.08	1.05	1.04	1.04	1.08	1.05	....	1.12
25 to 25.9	1.17	1.12	1.10	1.11	1.09	1.06	1.06	1.11	1.10	....	1.17
26 to 26.9	1.22	1.16	1.14	1.15	1.13	1.08	1.08	1 15	1.15	....	1.22
27 to 27.9	1.26	1.21	1.18	1.19	1.18	1.11	1.10	....	1.19	....	1.27
28 to 28.9	1.30	1.25	1.23	1.23	1.23	1.15	....	....	1.23	....	1.32
29 to 29.9	1.34	1.29	1.29	1.26	1.28	1.19	....	....	1.27	....	1.37
30 to 30.9	1.38	1.33	1.35	1.29	1.33	1.23	....	....	1.31	....	1.42
31 to 31.9	1.43	....	1.40	....	1.38	1.27	....	....	1.35	....	1.47
32 to 32.9	1.48	....	1.47	....	1.43	1.31	....	....	1.41	....	1.52
33 to 33.9	....	....	1.53	....	1.48	1.35	....	....	1.47	....	1.57
34 to 34.9	....	....	1.59	....	1.53	1.39	....	....	1.53	1.32	1.62
35 to 35.9	....	....	1.65	....	1.58	1.43	....	....	1.59	1.39	1.66
36 to 36.9	....	....	....	....	1.63	....	....	....	....	1.46	1.72
37 to 37.9	....	....	....	....	1.68	....	....	....	....	1.53	1.78
38 to 38.9	....	....	....	....	1.73	....	....	....	....	1.60	1.84
39 to 39.9	....	....	....	....	1.78	....	....	....	....	1.66	1.90
40 to 40.9	....	....	....	....	....	....	....	....	....	1.72	1.96
41 to 41.9	....	....	....	....	....	....	....	....	....	1.78	2.02
42 to 42.9	....	....	....	....	....	....	....	....	....	1.84	2.08

Note—Standard Oil Co. of California, effective December 18, 1930, established the following posted prices for oil purchased in the Playa Del Rey Field: 20-20.9 degrees 74 cents; 21-21.9 degrees, 77 cents; 22-22.9 degrees, 81 cents; 23-23.9 degrees, 84 cents; 24-24.9 degrees, 87 cents; 25 degrees and above, 90 cents. Union Oil Co. adopted same price schedule on December 18.

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain, 11 to 13.9 gravity, 50 cents; 14 gravity and above, 55 cents, effective March 11. On March 11 the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 50 cents. Fruitvale, posted by General Petroleum Co., 11-13.9, 50 cents; 14 gravity and above, 55 cents.

(Continued on Page 180)

TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Jan. 13

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago†	16.0	17.0	3.0	11.0
Decatur, Ill.	13.0	15.0	3.0	11.0
E. St. Louis	15.7	16.7	3.0	10.2
Joliet	16.4	17.4	3.0	11.0
Peoria	16.4	17.4	3.0	11.0
Quincy	16.2	17.2	3.0	10.8
Davenport, Ia.	16.5	17.0	3.0	11.3
Des Moines	16.5	17.5	3.0	11.3
Keokuk	16.5	17.5	3.0	11.3
Sioux City	16 1	17.1	3.0	10.9
Duluth, Minn.	17.5	17.5	3.0	11 9
Mankato	14.0	15.0	3.0	11.7
Minneapolis	17.2	18.2	3.0	11.9
La Crosse, Wis.	16.2	17.2	2.0	12 0
Milwaukee	15.1	16.1	2.0	10.9
Madison	15.3	16.2	2.0	11.1
Detroit, Mich.	16.8	17.8	3.0	12.7
Grand Rapids	15.7	16.7	3.0	12.6
Saginaw	14.3	15.3	3.0	12.8
Evansville, Ind.	17.1	18.1	4.0	11 9
Indianapolis	17.3	18.3	4.0	12.1
South Bend	17.4	18.4	4.0	12.2
Fargo, N. D.	18.9	19.9	3.0	13.9
Huron, S. D.	18.3	19.3	4.0	12.7
Sioux Falls	17.8	18.8	4.0	12.4
K. C., Mo.	15.9	16.9	3.0	9.6
Springfield*	15.9	16.9	3.0	10.5
St. Louis*	14.9	15.9	2.5	10.3
St. Joseph	15.6	16.6	2.0	10.1
Wichita, Kans.	14.8	13.8	3.0	9.8
Bartlesville, Okla.	15.5	18.5	4.0	9.5

*State tax 2 cents; remainder city tax.
†Effective June 3, discounts on Q.D.A. in Chicago district 4 cents off service station price on purchases of 500 gallons or more per month and 5 cents on purchases of 1,000 gallons or more per month.

Effecive August 5, the following quantity discounts from the service station prices are allowed on monthly sales of gasoline: 500 gallons or more, 3 cents; 75,000 gallons or more, 4½ cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discounts on the previous month's purchases.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Wh'ls'e price	Retail price	Incl'ds tax of	tank wagon
Fresno	21.0	21.0	3.0	17.0
San Francisco	21.0	21.0	3.0	15.5
Los Angeles	20.5	20.5	3.0	15.5
Reno, Nev.	26.0	24.0	4.0	19.0
Portland, Ore.	22.5	22.5	4.0	16.5
Seattle, Wash.	21.5	21.5	3.0	16.5
Tacoma	21.5	21.5	3.0	16.5
Spokane	25.5	22.0	3.0	20.5
Phoenix, Ariz.	19.5	21.5	4.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 5 cents.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.	20.0	22.0	6.0	13.5
Newark	12.5	14.5	2.0	10.5
Annapolis, Md.	16.0	17.0	4.0	11.0
Baltimore	15.2	16.2	4.0	9.5
Cumberland	17.0	18 0	4.0	12.0
Wash'gton, D.C.	13.7	14.7	2.0	10.7
Danville, Pa.	17.8	18.8	5 0	11.8
Norfolk, Va.	16.3	17.3	5 0	10.0
Petersburg	17.3	18.3	5.0	11.3
Roanoke	18.0	18 0	5 0	12.0
Richmond	16.7	17.7	5.0	10.7
Charles'n W.Va.	16.5	17.5	4 0	11.5
Keyser	17.1	18.1	4 0	12.0
Parkersburg	15.2	16 2	4.0	10.2
Wheeling	16 4	17.4	4.0	11.4
Charlotte, N. C.	18.3	19.3	5 0	12.3
Hickory	18.6	19 6	5.0	12 6
Mt. Airy	18 5	19.5	5 0	12.5
Salisbury	18 5	19 5	5.0	12.5
Charleston, S. C.	17.3	18.3	6 0	10.3
Columbia	19.2	20.2	6.0	12.2

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	17.25	18.25	4.0	11.25
McCook	18.75	20.75	4.0	12.75
Norfolk	17.25	17.25	4 0	11.75
N. Platte	18.75	20.75	4.0	12.50
Scottsbluff	18 75	20.75	4.0	12.25

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.*	16.5	18.5	6.0	12.0
Baton Rouge	17.5	19.5	5.0	13.0
Alexandria†	18.5	20.5	6.0	13.0
Lafayette*	18.5	20.5	6.0	13.0
Lake Charles*	18.5	20.5	6.0	13 0
Shreveport	17.5	19.5	5.0	13.0
Knoxville, Tenn.	19.0	21.0	5.0	15 0
Memphis	17.0	19.0	5.0	12 5
Chattanooga	18.5	20.5	5.0	13.0
Nashville	18.0	20.0	5.0	15.0
Bristol	20.0	22.0	5.0	14 0
Lt. Rock, Ark.	16.0	18.0	5.0	12.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.
†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

One-cent discount allowed off station price on all cash purchases. All other station discounts withdrawn October 2, 1930.

Two-cent discount off gasoline tank wagon price to dealers and commercial accounts.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points*	16.0	17.0	4.0	†13.0

*Dealers and commercial accounts 2 cents under tank wagon.
†Service station price 14 cents.

PENNSYLVANIA-DELAWARE AND PART OF NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	14.0	19.0	...	12.0
Philadelphia	14.0	19.0	...	12.0
Scranton	14.0	19.0	...	12.0
Allentown	14.0	19.0	...	12.0
Altoona	14.0	19.0	...	12.0
Erie	14.0	18.0	...	11.0
Dover, Del.	17.0	19.0	3.0	12.0
Wilmington	17.0	19.0	3.0	12 0
Springf'd, Mass.	17.5	19.5	2.0	10 0
Worcester	17.3	19.3	2.0	10.0
Boston	14.5	16.5	2.0	10.0
Providence, R.I.	12.7	14.7	2.0	10.0
Hartford, Conn.	17.5	19.5	2.0	10.0
New Haven	17.6	19.6	2.0	10.0

*Includes tax of 3 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.	20.0	21.0	6.0	13 5
Augusta	20.0	22.0	6.0	15.5
Macon	20.0	22.0	6.0	13.0
Savanah	17.0	17.0	6.0	14.0
Birm'ham, Ala.	17.0	18.0	5.0	14.5
Mobile	17.0	19.0	4.0	10.5
Montgomery	17.0	18.0	4.0	15.0
Clarks'le, Miss.	18.0	18.0	5.0	11.0
Jackson	15.0	17.0	5.0	13.0
Natchez	18.0	20.0	5.0	13.0
Gulfport	18.0	20.0	5.0	13.0
Vicksburg	18.0	20.0	5.0	13.0
Jack'ville, Fla.	17.0	19.0	6.0	14.0
Miami	19.0	21.0	6.0	14.0
Pensacola	19.0	19.0	6.0	13.5
Tampa	18.0	20.0	5.0	13.0
Lexington, Ky.	17.0	18.0	5.0	14.5
Covington	17.0	18.0	5.0	13.5
Louisville	16.0	18.0	5.0	11.0
Ashland	17.0	19.0	5.0	13.0
Paducah	17.0	19 0	5.0	12.0
Bowling Green	19.0	21 0	5.0	14.5
Corbin	19.0	21 0	5.0	15.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama an inspection fee of one-half cent one kerosene and one-fourth cent on gasoline. To Pensacola, Montgomery, Birmingham and Mobile state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents.

Effective April 1, price to dealers 2 cents under posted tank wagon price.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	15.6	17.6	2.0	15.6
New York*	14.3	15.3	2.0	14.3
Buffalo	14.8	15.8	2.0	14.8
Rochester	15.0	16.0	2 0	14.0
Syracuse	15.8	16.8	2.0	14 8
Boston, Mass.	14.5	15.5	2.0	13.5
Augusta, Me.	17.8	18.8	4 0	14.8
Manch't'r, N.H.	17.4	18.4	4.0	14 0
Burlington Vt.	18.3	19.3	4.0	15.3

*Prices in steel barrels.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	14.0	17.0	4.0	11.0
Fort Worth	14.0	17.0	4.0	10.0
Houston	15.0	19.0	4.0	11.0
San Antonio	13.0	17.0	4.0	10.0
El Paso	16.0	20.0	4.0	12.0
Texarkana	17.0	17.0	4.0	11.0
Muskogee, Ok.	15.0	18.0	4.0	9.0
Okla. City	13 0	16 0	4.0	10.0
Tulsa	13 0	17.0	4 0	10 0
Ft. Smith, Ark.	17.5	18.5	5.0	12.0
Little Rock	16.0	17.0	5.0	12.0

One-cent rebate made from posted station prices to cash purchasers in Louisiana, Arkansas and Tennessee.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	12.0	15.0	4.0	13.5
Pueblo	14.0	17.0	4.0	13.5
Jrand Junction	18.0	19.0	4.0	17.0
Casper, Wyo.	17.0	20.0	4.0	12.0
Cheyenne	18.0	21.0	4.0	13.5
Butte, Mont.	19.0	22.0	5.0	18.0
Billings	20.0	23.0	5.0	16.5
Great Falls	20.0	23.0	5.0	18.0
Salt Lake, Utah	19.0	22.0	3.5	17.0
Albu'que, N. M.	16.0	20.0	5.0	14.0
Boise, Idaho*	22.5	....	5.0	19.0
Twin Falls†	22.5	....	5.0	19.0

*Two and one-half cents off tank wagon to dealers at time of delivery. †Three cents off tank wagon to dealers at time of delivery.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 gallons or more	7.5

Note—Outside Chicago furnace oils discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	12.0	8.0
V.M.&P. naphtha	14.0	9.5
Cleaners' naphtha	16.2	11.0
Stanisol	16.2	11.0

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

TANK WAGON CHANGES

Standard Oil Co. (California) decreased its tank wagon gasoline market 2 cents at seven points, January 7, making the new prices: Fresno, 21 cents; San Francisco, 21 cents; Los Angeles, 20.5 cents; Reno, Nev., 26 cents; Seattle, 21.5 cents; Tacoma, 21.5 cents; Spokane 25.5 cents. At Reno the service station price was lowered 2 cents to 24 cents; at Portland it was raised 2 cents to 22.5 cents; at Phoenix it was lowered 2 cents to 21.5 cents. Standard Oil Co. (Indiana) made six revisions in its price schedule, raising the service station price in each case from 0.5 cent to 2 cents.

KETTLEMAN HILLS REFINERY

The skimming plant of the Kettleman Hills Gasoline Co. recently completed at Hanford, Calif., is now operating on a settled basis. The plant which is operated with government royalty oil brought by truck from the Kettleman Hills Field to Hanford has a capacity of 2,500 bbls. daily.

The crude oil is high in gravity and a recovery as great as 85 per cent gasoline is obtainable in a skimming operation. The products are distributed locally. H. H. Bell is president of the company, W. C. Phillips, vice president and general manager and William Gibson, secretary and sales manager. The plant is the first to be built as the result of the development in the Kettleman Hills Field.

MAY INSTALL CRACKING

The Sunray Oil Co., which has operated a 2,500-bbl. daily capacity skimming plant at Allen, Okla., announces the increased capacity of this plant to 7,000 bbls., and the addition of two 55,000-bbl. tanks for storage.

The increase in capacity was made by the addition of a pipe still, and plans are under consideration for the installation this year of cracking facilities. The refinery was formerly known as the Homaokla Oil Co. plant. The headquarters are in Tulsa.

CRUDE OIL PRICES

(Continued from Page 175)

back posted by Midwest Refining Co. and the remainder by the Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia posted by Ohio Oil Co. and Continental Oil Co. Latter company posted 50 cents per barrel January 1, 1931. Border and Red Coulee posted by Imperial Refining Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (Oct. 28, 1930)*	$ .90
Luling (Oct. 28, 1930)†	.75
Mirando (Oct. 28, 1930)*	.75
Pettus (Oct. 28, 1930)*	1.10
Salt Flat (Oct. 28, 1930)*	.90
Thrall‡	
Lytton Springs (Lockhart). See gravity table	
Dobrowolski (Oct. 25, 1930)‖	
Same as Mid-Continent gravity scale up to and including 38-38.9° at	1.01
Somerset (Oct. 25, 1929)¶	
Same as Mid-Continent gravity scale up to and including 38-38.9° at	1.01

*Posted by Humble Oil & Refining Co. and Magnolia Petroleum Co. †Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co. ‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight. ¶Grayburg Oil & Refining Co., Pioneer Oil & Refining Co. and Texas Petroleum Products Co. ‖Pioneer Oil & Refining Co.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective Nov. 12, 1930)

Penna Grade Oil in National Transit Lines (Pennsylvania)	$1.85
Penna. Grade Oil in Southwest Pennsylvania Lines (Pennsylvania)	1.80
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.70
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) (Sept. 14, 1930)	1.45
Corning Grade Oil in Buckeye Pipe Line Co.'s Lines (Dec. 31, 1930)	1.15
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky)	1.10
Wayne District Oil in Cumberland Pipe Lines	1.17

Tide Water Pipe Co.

Bradford district (Nov. 12, 1930)	$2.15
Allegany district (Nov. 12, 1930)	2.15

Pure Oil Co.

Cabin Creek, W. Va. (Nov. 12, 1930)	$1.70
Kelly Creek, W. Va. (Nov. 12, 1930)	1.70
Bradford Hollow, W. Va. (Nov. 12, 1930)	1.70

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective Oct. 28, 1930)

Lima	$1.10
Wooster	1.40
Illinois	1.30
Indiana	.87
Princeton	1.20
Plymouth	.89
Western Kentucky	1.15
Midland, Mich.*	1.10
Dundee, Mich. (Oct. 26)‖	
Same as Mid-Continent gravity scale	
Upper and Lower Traverse Sands, Mich. (Oct. 28)‖	
Same as Mid-Continent gravity scale	
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (Oct. 28)†	.85
Oil City, Ky.‡	1.10
Oil Springs (Canada) (Oct. 28)¶	1.57
Petrolia (Canada) (Oct. 28)¶	1.50

*Posted by Pure Oil Co. ‡Posted by Paragon Development Co. ‖Posted by Stoll Refining Co. ¶Posted by Imperial Oil, Ltd. ‖Posted by Standard of Indiana for boat shipment.

MEXICAN CRUDE

Panuco*	$ .56

*F.o.b. ship, based on November transactions and exclusive of taxes and bar dues.

SMALL ADVANCE IN GASOLINE PRICES

(Continued from Page 60)

market should now begin to show some improvement due to the operating conditions within the refining branch of the industry. Although refiners as a unit have not yet been able to curtail their operations to the point suggested at the annual meeting of the American Petroleum Institute in November, conditions in regard to supply and demand are on a better basis than they were a year ago.

Since the first of the year a number of refiners, particularly the larger operators, have projected their probable requirements over the next 90 days. These programs include small additions to gasoline storage. They have adjusted their plant operations in line with this probable demand. In contrast to the situation in November and December, these operators are not liquidating their stocks at distress prices and this has reduced materially the quantity of gasoline being offered on the spot market. This is a fortunate development for January and February are generally the two dullest month of the year so far as spot buying in the domestic market is concerned.

Refiners are hopeful that these factors will continue to work toward a more favorable market structure. Realizing the danger of too much optimism at this time these sellers do not desire any rapid advance in prices on gasoline or any other products at this time. As explained by one operator if the Mid-Continent refining industry can get its price back to a "break even" basis, it should be content to wait until the industry generally is on a more healthy basis before attempting to recoup the losses of the past few months.

Gasoline and Naphtha

Resale buyers of U. S. Motor gasoline have seen their refinery price advance from a low of 3⅝ cents in late December to a high of 4⅛ cents the first of this week. The demand is better than expected. It is known that several large jobbers have been filling their storage and this fact probably accounts for a more active demand than was expected by many. Prices ranged up to 5 cents for this grade.

Although refiners have been slow in advancing their higher gravity grades due to a limited demand, prices are at least one-eighth cent higher than they were last week. The 60-62 400 was being quoted at a low of 4⅜ cents, 64-66 390, 4½ cents and 64-66 375, 4⅝ cents.

There is a fair demand for naphthas. The low gravity grades with endpoints in excess of 450 are available under 4 cents. The supply of these grades is confined to two or three refiners in Oklahoma and they are often sold up for a week or 10 days. The 440 and 450 endpoint grades are not freely offered and usually the refiners having these grades available are asking the same prices as they do for the U. S. Motor grade.

With natural gasoline prices at their present levels blending is attractive. The blenders in buying naphtha prefer the stock which will permit the largest percentage of natural gasoline to be used. No changes in prices for the blended gasolines were reported for the first of the week.

Natural Gasolines

Grade AA natural gasoline was firm on Monday and Tuesday at 3¼ cents with Grade A, one-fourth cent higher. Both grades are well sold up for the month and it was predicted that these prices would advance one-fourth cent before the end of the week.

The remaining grades have not improved in price. The demand from refiners is for the better grades and buyers generally are not interested in Grades BB and C even at the 2½-cent price level which has been in effect since the first of the year.

Kerosene

The kerosene demand is slow and the supplies adequate. The movement to the trade is along routine lines with a low of 3 cents for the 41-43 water white grade.

Furnace Oils

The furnace oil situation has not changed since last week. The strongest products in the furnace oil list are the low gravity, low cold test and low flash gas oils. These vary in gravity from 28 to 35 and regardless of color they are bringing a low of 2½ cents with sales reported at 2⅝ and 2¾ cents. The higher gravity distillates varying in color from dark to prime white are steady in price but are not as strong as the lower gravity grades. Prices start at 2⅝ cents with a top of 3⅛ cents.

Fuel Oil

The fuel oil situation appears to be improving slowly not so much because of any increase in demand but due to the fact that the low price sellers have been able to adjust their operations so that they do not have as much material to offer. There are still small quantities of low gravity, high cold test fuel available at a low of 40 cents. However, some sellers have advanced to a low of 42½ and 45 cents.

The higher gravity grades from 26 to 32 gravity are in demand when the cold test is from zero to 20. A 28-30 grade is quoted at 80 to 90 cents.

Lubricants and Wax

The market situation is in regard to steam refined stocks and bright stocks continues unsatisfactory. These products are not uniform as to quality and this is reflected in prices but practically all the manufacturers now have material to sell. A refining organization which has been a large buyer of bright stock will soon have its own plant in operation and at least two other Oklahoma refiners are increasing their output. The wax demand continues slow.

Offset to Big Gasser In Tioga County, Pa., Failed to Find Pay

BRADFORD, Pa., Jan. 10.—Operators in the area surrounding the 20,000,000-foot gas well of the Allegany Gas Co. on the Palmer farm in Luther Township, Tioga, County, Pennsylvania, are wondering whether or not the big gasser is a freak, and the only one the area will show. The Allegany Gas Co.'s No. 1 on the Kemp farm, 1,040 feet from the discovery well, reported drilling at 4,367 feet, or 357 feet deeper than gas was found in the well on the Palmer farm, has had only a small showing of gas and it is said the well will be drilled down to the Medina sand which is believed to lie at about 6,000 feet in depth. The big gas in the discovery well is coming from the Oriskany sand.

The company having had so much difficulty in controlling the first well made every possible preparation for handling the gas from the second well, and everything was ready for the heavy flow of gas which has not materialized.

Other wells drilling in the neighborhood are as follows: Peoples Gas Co.'s No. 1 Howe, drilling at 3,200 feet; Peoples Gas Co.'s No. 1 F. A. Ackley, drilling at 780 feet; Peoples Gas Co.'s No. 1 Shoemaker, drilling below 2,240 feet; Kimmel Drilling Co.'s No. 1 Bostwick, shut down at 1,250 feet waiting for cable; Penn United Gas Co.'s No. 1 Ben Meeker, drilling at 2,700 feet; J. C. Trees' No. 1 Farr and others, drilling at 2,250 feet; Penn Ohio Oil Co.'s No. 1 Edith Price, drilling below 150 feet; Hope Engineering & Construction Co.'s No. 1 Birtch, an old hole at a total depth of 3,008 feet, cleaning out to drill deeper; Benedum & Trees' No. 1 Close, drilling at 1,940 feet.

Over the line in New York State where a widespread leasing campaign has been on for several months following the discovery of the Dundee gas field by the Belmont Triangle Oil Co. in the neighborhood of Watkins, N. Y., a number of wells are drilling in scattered portions of Steuben County. The Belmont-Triangle Co. has 11 gassers in the Dundee Field all producing from the Oriskany sand.

The Lycoming Gas Co., drilling for Fenner-Taft, near the town of Woodhull, N. Y., has completed a water well at 120 feet and has the gas well down 400 feet. J. Y. Cunningham and others are drilling at 2,700 feet on the Guy Ford farm close to Howard, N. Y., and Cunningham reported that he expects to bring in that well by the time this report was filed.

AMERICAN REFINING EMPLOYES WIN SAFETY HONORS FOR NO ACCIDENTS

A perfect safety score by the employes of the American Refining Properties, Wichita Falls, Tex., during the 90-day period just ended, won for them the monument shown above upon which are displayed the honor shields of the Mid-Continent Oil and Gas Association. The record of the plant shows that there has not been an accident which would cause loss of time from the refinery in 202 days.

Credit for this accomplishment is given to the activity of a safety organization composed of representatives from each department, and to the active co-operation of the management.

The legend on the shields is: "Mid-Continent Oil and Gas Association Safety Contest. The World Depends on Oil. Make Petroleum the Safest Industry in the World."

The men standing by the award are, left to right: G. D. Dinnard, foreman of the skimming plant; G. F. Bowden, construction foreman; W. L. Goodson, foreman of the cracking plant; and R. E. Goode, chemist.

KINGSBURY ATTRIBUTES WASTE TO SHERMAN ACT

Those provisions of a 40-year-old antitrust law that "require business to operate under law-enforced competition, regardless of waste in production and marketing, are totally unsuited to modern commercial conditions," according to a statement by K. R. Kingsbury, president of the Standard Oil Co. of California, in which he discusses specifically the need for some supplemental legislation.

"The Sherman antitrust law, designed to prohibit monopolies, was enacted 40 years ago," says Mr. Kingsbury. "It has served and still serves a useful purpose. But, although the restrictions that it imposes upon our industrial activities have from time to time been lifted by Congress, as in the case of our export trade, labor, agricultural and horticultural organizations, co-operative marketing, railroad consolidations, and so forth, and although its sweeping prohibitions have been tempered by judicial construction and the application of the rule of reason, its provisions requiring business to operate under law-enforced competition, regardless of waste in production and marketing, are totally unsuited to modern commercial conditions.

"Not only is the law drastic but its application and the determination of what is reasonable and therefore lawful are uncertain. The effect of the law on the development of our natural resources has been an appalling and useless waste. The effect of the law on distribution and marketing in all fields of endeavor has been to promote economic loss. Proper agreements to prevent such waste and loss are forbidden where they should be encouraged. The law today works against the public interest and against industry.

"The remedy seems simple. Just as the government prohibits harmful monopolistic combinations in restraint of trade, so it should encourage and sanction agreements to promote economy in production and distribution. The problem is an administrative one which the processes of the courts are too cumbersome and too slow to meet."

WEST VIRGINIA REGULATIONS

The Department of Mines of West Virginia announces that the law regarding oil and gas wells will be changed somewhat owing to the new code of West Virginia which became effective January 1. The restriction to "workable coal areas" will be removed and the new law applies to all wells in the State penetrating either workable coal seams or the oil and gas sands of the State. All persons, firms, associations or corporations owning wells or operating for oil or gas within the State are required to register with the Department of Mines, giving name and address and the name and address of the official in charge of the operations in West Virginia. Permits are required to drill wells anywhere within the State and the abandonment of all wells must be done under the supervision of the Department of Mines. The department, under this new law, is charged with the prevention of waste of oil or natural gas with the prescribing of rules and regulations to that end.

President Holmes Issues Statement

Announces The Texas Company Is in Position to Maintain Dividend Rate for Another Year. Has Ample Cash Reserves

NEW YORK, Jan. 12.—Notwithstanding the current depression in the petroleum industry The Texas Company is in position to continue its present dividend rate for at least another year and at the same time maintain ample cash reserves, says R. C. Holmes, president, in a special letter to stockholders. Mr. Holmes' statement follows:

"There are elements in the causes of the present world-wide depression which have made it extremely difficult to make comparisons with previous periods of industrial depression, and as a consequence, impossible at any time within the last year to forecast with confidence the extent and duration of the present one. It has never been the policy or practice of the officers of this company to predict what the board of directors may find it wise to do in regard to dividends or to give out to anyone information of the company's activities except after the annual closing of the books, when a full and detailed statement of the company's financial and operating conditions is published and distributed to every stockholder.

"The apparent lack of confidence in the ability of industry to recover from this depressed state leads us to make an exception and to say to our stockholders that while our net earnings for 1930, after federal taxes and all charges, will be small compared with 1929, probably not more than $15,000,000, or $1.52 per share, nevertheless our cash, securities, and notes receivable as of December 31, 1930, will be about $65,500,000. In accordance with our practice, inventories are adjusted to lower of cost or market, which today is market. The wholesale prices, both domestic and foreign, on gasoline and other petroleum products, average lower now than they have at any time in the history of this company, 28 years.

"Our unbroken dividend record from the first year of operation, 1902, has been a source of pride and satisfaction to stockholders and officers alike. Out of the bond issue of October, 1929, we have made investment expenditures of approximately $54,000,000 during the year 1930. We have no bank loans.

"Our forecast leads us to believe that even if market conditions should not improve, we would without any borrowing be able to continue the present dividend rate for at least another year and at the same time maintain ample cash reserves to meet all necessary construction requirements and maintain our business and facilities at our usual high standards. The board must, however, in the best interests of the company, decide from time to time what dividend payments shall be made."

Lone Star Gas

Net income of Lone Star Gas Co. for year ended December 31, 1930, will be slightly less than in 1929, due to heavier charge-offs in current year. In the year ended December 31, 1929, net income was $6,540,581 after depreciation, depletion, taxes and reserves, equal to $1.82 a share earned on 3,595,841 shares of no-par common stock outstanding.

Corporation has declared the regular quarterly dividend of $1.63 on the preferred stock, payable February 2 to stock of record January 20.

Tide Water Associated

Tide Water Associated Oil Co. declared the regular semiannual dividend of 30 cents on the common, payable February 16 to stock of record January 31.

Tide Water Oil Co., owned by Tide Water Associated, declared the regular quarterly dividend of $1.25 on the preferred, payable February 16 to stock of record January 17.

Shell Transport & Trading

Chase National Bank, as successor depositary of certain ordinary shares of the "Shell" Transport & Trading Co., Ltd., has received a dividend on the shares of 2 shillings. The equivalent thereof distributable to holders of American shares 96.6 cents. This dividend will be distributed on January 23 to holders of record as of the close of business January 15.

Indian Refining

At the close of business January 8, there were 670,397 shares of Indian Refining Co. common stock, or about 52 per cent of the 1,270,122 shares outstanding, deposited under the deposit agreement in connection with the offer of The Texas Corporation to exchange one share of its common stock for each eight shares of Indian Refining. The time limit for deposit was originally set for December 15, 1930, but was later extended to January 15.

Under the deposit agreement, the exchange becomes effective whenever 75 per cent of the outstanding Indian Refining common stock has been deposited and may be declared effective at the option of The Texas Corporation whenever 51 per cent of the outstanding stock has been deposited.

Barnsdall Corp.

Barnsdall Corp. declared a dividend of 25 cents each on the Class A and Class B stocks, both payable February 16, to stock of record January 20. Previously the stocks were receiving quarterly dividends of 50 cents.

The company issued the following statement: "The corporation earned its full dividend in the year 1930 and recognizes that much has been done in the oil industry through curtailment and other features lending toward betterment of producing and selling conditions that will reflect in improvement in earnings of all substantial oil companies.

"Current position on January 1, 1931, showed net current assets of over $6,000,000, a ratio of approximately 2½ to 1, with budget requirements for the first six months of 1931 for drilling and other capital expenditures of less than $1,000,000, against $6,500,000 for the year 1930."

For 1929, the best year in its history, Barnsdall Corp. reported net income of $7,205,161 after interest, federal taxes, depreciation, depletion, intangible development costs, etc., equivalent to $3.20 a share (par $25) on 2,247,602 average shares of combined Class A and Class B shares outstanding during the year and to $3.19 a share on 2,258,327 combined shares outstanding at the end of the year.

Skelly Oil

Skelly Oil Co. omitted the usual quarterly dividend of 50 cents on the common due to be paid March 15.

Commenting on the action taken W. G. Skelly, president, said that it was the sense of the directors that the best interest of the stockholders and the company would be served by omitting the common dividend pending the return of more stable conditions in the oil industry and general business. In that connection directors expressed the hope that progress toward normal prices for oil and oil products and toward general stabilization would warrant an early resumption of dividend payments on the common stock.

Reviewing the Trend

Reviewing the oil securities market trend in the past year, J. W. Smallwood, of Carl H. Pforzheimer & Co., says in the Journal of Commerce that notwithstanding a degree of success in curtailment of production beyond expectations, the oil industry during 1930 was adversely affected by low prices, especially for gasoline.

"While low prices and diminished profits have tended to give an impression of somewhat chaotic conditions," he adds, "the statistical position of the industry has shown great improvement during the past year and indicates a growing determination to correct the condition brought about by overproduction.

"From a long range viewpoint, as well as the immediate effect, one of the principal problems confronting the oil industry is excessive competition in the marketing branch. It requires no special study of the industry to realize the existing overdevelopment of marketing facilities. The keen demand to find outlets for their crude oil and refinery production is acting as an incentive to many of the companies not heretofore heavily interested in the marketing business in various sections of the country to expand their distribution facilities, and is adding to an already overdeveloped situation. The action of the major Standard Oil marketing companies in introducing the sale of automobile tires and accessories is probably influenced by a desire to furnish additional service to customers, and should also tend to make more difficult entrance into the service station business owing to the investment required.

"The movement in construction of gasoline pipe lines from refining centers to markets introduces a new element, the effect of which it is impossible to determine at this time. One of the possible results may be a general revision of pipe line and railroad freight rates. There appears to be no immediate remedy for the marketing situation and the development of this branch on a sounder basis will require time. From a temporary standpoint, the best hope for an improved marketing condition would seem to be in strict curtailment of producing and refining operations with resulting higher prices. From the longer range outlook, a permanently stable condition must involve elimination of excessive competition and a cessation of the wild scramble to acquire new service stations.

Financial Effects

"The decline in prices in the final quarter of the year will be reflected in

(Continued on Page 184)

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

Week ending January 7, 1931						Stocks—	Outstanding capital	Par value	Div. rate	Last paid	1928		1929		1930	
High	Low	Sales	High	Low	Close						High	Low	High	Low	High	Low
1	¼	100	¼	¼	¼	Atlantic Lobos	499,448	N.P.	....	5-28-30	..	..	..	..	1	¼
25	11¼	100	12⅞	12⅞	12⅞	Borne Scrymser	$1,000,000	$25	$18A	10-15-30	56½	44½	46½	25	25	11¼
69	38	200	40	40	40	Buckeye Pipe Line	$10,000,000	$50	$1Q	12-15-30	76	53	74½	55	69	39⅞
184⅞	100¼	100	110	110	110	Chesebrough Mfg.	$3,000,000	$25	$1Q	12-30-30	161	117	210	130	184⅞	104¼
65¾	20¼	200	20¼	20¼	20¼	Cumberland Pipe Line	$1,500,000	$50	$1Q	12-15-30	114	67	75¾	40	65¾	20¼
54¾	26	100	28	28	28	Eureka Pipe Line	$5,000,000	$100	$1Q	11- 1-30	88	64½	70½	42	54¾	26
7	2½	100	2½	2½	2½	Galena Signal Oil	$16,000,000	$100	....	.....	13	4¼	6½	3	7	2½
119	57¼	100	63⅛	63⅛	63⅛	Humble Oil & Refining	$74,103,300	$25	50cQ‡	1- 2-31	114¾	59½	128	74⅛	119	57¼
320	303	100	315	315	315	Illinois Pipe Line	$20,000,000	$100	$4.50	12-15-30	290½	176½	340½	260	320	303
30	15	100	17¾	17¾	17¾	Imperial Oil of Canada (new)	(sh) 26,421,768	N.P.	12½cQ	12- 1-30	104	56¾	41	22	30	15
41	14½	100	16	16	16	Indiana Pipe Line (new)	$3,000,000	$10	50cQ‡	11-15-30	91⅞	74⅜	41⅞	26	41	14½
24	11¾	1,300	15	14¾	15	International Petroleum (new)	(sh) 14,247,088	N.P.	25cQ	12-15-30	55	35	30⅜	15	24	11⅜
22⅜	11½	200	13⅜	13⅜	13⅜	National Transit	$6,362,500	$12.50	25cQ	12-15-30	32⅜	19⅜	25⅛	10⅛	22⅜	11½
21⅜	10⅛	100	14	14	14	New York Transit	$1,000,000	$10	40cQ	1-15-31	75	38½	17½	10	21⅜	10⅛
54	26¼	100	26¼	26¼	26¼	Northern Pipe Line	$2,000,000	$50	$28A	1- 2-31	69	56½	63	41	54	26¼
32	12	100	14	14	14	Penn Mex Fuel	$10,000,000	$25	$1	12-15-30	84	28	44½	20	32	12
33	4⅞	1,000	6	5¼	6	Solar Refining	$4,000,000	$25	....	12-20-29	..	..	50	29	33	4⅞
20⅞	8¾	100	10	10	10	Southern Pipe Line	$1,000,000	$10	5cQ	12- 1-30	19	15	22½	13	20⅞	8⅜
45⅞	16⅛	200	22¼	22	22¼	South Penn Oil	$30,000,000	$25	50cQ	12-31-30	71⅞	36¾	60¼	35⅛	45⅞	16⅛
64	32	100	33	33	33	Southwest Pennsylvania Pipe Lines	$1,750,000	$50	$1Q	1-10-29	102	70	70	60	64	32
59⅞	30	6,500	38½	38	38	Standard Oil of Indiana	$348,175,069	$25	62½cQ‡	12-15-30	95⅞	70⅞	63	45	59⅞	30
40½	18⅝	2,400	22⅜	21½	22⅜	Standard Oil of Kentucky	$25,654,516	$10	40cQ	12-31-30	179¾	122¼	46⅞	29	40½	18⅝
48⅞	34⅝	100	36½	36½	36½	Standard Oil of Nebraska	$4,649,225	$25	62½cQ‡	12-31-30	54⅞	39⅞	50¼	40	48⅞	34⅝
108½	43¼	50	61	61	61	Standard Oil of Ohio	$14,000,000	$25	62½cQ	1- 2-31	134	71	129	60	108½	43¼
10	3½	100	3½	3½	3½	Swan-Finch Co.	$861,466	$25	43¾cQ	12- 1-30	23½	16	18	10	10	4
97⅞	45⅝	1,400	58¼	57¼	57¼	Vacuum Oil Co.	$126,180,350	$25	$1Q	12-20-30	111	72	133¾	75	97⅞	45⅝

*Plus 50 cents extra. †Plus 10 cents extra. ‡Plus 25 cents extra. x Ex-dividend.

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

Week ending January 7, 1931						Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1928		1929		1930	
High	Low	Sales	High	Low	Close							High	Low	High	Low	High	Low
4½	½	2,100	1	⅞	1	American Maracaibo	(sh)	700,000	N.P.	....	.....	9½	3⅛	8⅝	1⅛	4½	½
21	13⅜	100	15¾	15¾	15¾	British American (coupons)		1,311,321	N.P.	20cQ	1- 2-31	55	32¾	62	7⅞	23	13⅜
2¾	⅝	1,600	¾	⅝	¾	Carib Syndicate		$131,250	25c	....	.....	4½	3⅞	4⅞	1	2¾	⅝
44¼	13⅛	24,500	18¾	18¼	18½	Cities Service	(sh)	24,290,359	N.P.	30cA†	1- 1-31	90⅞	54	68⅛	20	44¼	13⅛
93⅞	78¼	500	82	80	82	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	1- 1-31	103¼	94½	98¾	84	93⅞	78¼
¾	⅛	6,300	7/16	⅜	7/16	Colombia Syndicate		$2,000,000	$1	....	.....	3¼	.76	2	½	¾	⅛
5⅞	2	300	2½	2⅜	2½	Consolidated Royal		$5,000,000	$10	12½cQ	10-25-30	8⅞	6¼	11⅛	2½	5⅞	2
7⅝	3	300	3½	3½	3½	Creole Petroleum	(sh)	5,977,873	N.P.	....	.....	17½	9½	11¾	5⅝	7⅝	3
1	½	100	⅝	⅝	⅝	Crown Central	(sh)	587,000	N.P.	....	.....	3¼	.76	2½	¼	1	½
1	½	300	⅝	½	⅝	Crown Central (new)		.....	....	....	.....	..	..	..	..	..	..
21¾	4⅛	400	4⅛	4⅛	4⅛	Darby Petroleum		1,019,392	N.P.	25cQ	10-15-30	33½	3¼	26	6½	21¾	4¼
11	2	300	3	3	3	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	2¼	1	11	2	11	2
60	30	100	30½	30	30	Derby Oil & Refining pfd.		48,500	N.P.	....	.....	21⅛	7½	44	20¾	60	30
166⅞	58½	1,700	75	74½	74¾	Gulf Oil Corp.	(sh)	4,504,921	$25	37½cQ	1- 1-31	165	101⅛	209	115	166⅞	58½
1¾	⅜	1,700	7/16	7/16	7/16	Intercontinental Petroleum		$5,682,000	$5	....	.....	3⅜	1	2⅞	⅝	1¾	⅜
3	⅝	100	1	1	1	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	3	1¼	3⅝	1¼	3	⅞
4¾	½	400	¾	¾	¾	Leonard Oil & Development		$50,000,000	$25	....	.....	9⅜	5⅛	6⅛	1	4¾	½
29	4⅞	200	5⅝	5⅝	5⅝	Lion Oil & Refining	(sh)	250,000	N.P.	50cQ	10-27-30	43⅞	20	38⅞	18	29	4⅞
55⅞	19⅝	300	25¾	25⅝	25⅝	Lone Star Gas	(sh)	5,000,000	N.P.	25cQ	12-31-30	69⅛	48½	67⅞	28	55⅞	19⅝
½	1/16	800	⅛	⅛	⅛	Magdalena Syndicate	(sh)	850,000	$1	....	.....	1⅞	½	1¼	¼	½	⅛
16	3	100	3½	3½	3½	Margay Oil Corp.		160,000	N.P.	25cQ	7-10-30	48½	32	38½	14	16	3
7½	1¾	200	2⅝	2⅝	2⅝	Mexico-Ohio Oil Co.		500,000	N.P.	....	.....	8	2¾	6⅜	2¼	7½	1¾
¾	⅜	100	⅜	⅜	⅜	Mountain & Gulf		$4,000,000	$1	1½cQ	1-15-31	1¾	.76	1½	¼	⅜	⅜
12⅛	3¾	300	5½	5¼	5½	Mountain Producers		$1,682,182	$10	40cQ	1- 2-31	28⅞	19½	22⅞	7	12⅛	3¾
3½	1⅛	400	1½	1¼	1¼	New Bradford Oil		$1,095,291	$5	10cQ	1-15-31	5⅝	4¼	5	2½	3½	1⅛
7¼	1½	400	2⅛	2⅛	2⅛	New Mexico and Arizona		$1,000,000	$1	....	.....	11⅞	7⅛	9⅜	2¼	7¼	1½
11¼	2⅛	200	2	2	2	North Central Texas	(sh)	400,000	N.P.	15cQ	9- 2-30	14¼	8½	18½	6⅛	11¼	2⅛
2½	¼	100	⅛	⅛	⅛	Pandem	(sh)	489,875	N.P.	....	.....	6	2⅛	3½	½	2½	¼
4⅜	⅞	100	1½	1½	1½	Pantapec Oil	(sh)	1,506,000	N.P.	....	.....	15⅝	8½	10½	1⅞	4⅜	⅞
10½	1½	500	2	1½	1½	Red Bank Oil	(sh)	250,000	N.P.	....	.....	18	4⅞	16	9⅝	10⅛	1½
5⅜	⅝	1,000	1⅜	1⅜	1⅜	Reiter-Foster	(sh)	388,584	N.P.	10cQ	12- 2-29	12⅞	4⅛	8½	1⅛	5⅜	1
8⅜	2	100	2½	2½	2½	Ryan Consolidated	(sh)	500,000	N.P.	....	.....	12	4⅛	11	3	8⅝	2
2½	½	1,000	⅝	⅝	⅝	Salt Creek Consolidated	(sh)	1,286,300	$10	10cQ	1- 2-31	7¼	5½	5⅞	1⅞	2½	½
15¼	5¼	700	7½	7⅛	7½	Salt Creek Producers	(sh)	1,496,859	$10	50cQ	11- 1-30	35	23⅛	25⅞	9	15¼	5¼
1	½	100	½	½	½	Savoy Oil		$750,000	$5	....	.....	3½	1	2½	1/16	1	½
4½	⅝	4,000	1⅞	1¼	1⅞	Venezuelan Petroleum	(sh)	755,090	$5	5cQ	2-15-30	9⅛	4¾	6½	1¾	4½	⅜
5	½	100	2	2	2	Woodley Petroleum		$500,000	$1	15cQ	3-31-29	8¼	4⅞	9½	2	5	½
2½	⅜	900	½	½	½	Y Oil & Gas		100,000	N.P.	....	.....	8⅜	2⅛	2⅞	¼	2½	⅜

*Including one-half per cent monthly in stock. †Payable monthly and monthly stock dividend of one-half per cent. x Ex-dividend.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

Week ending January 7, 1931						Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1928		1929		1930	
High	Low	Sales	High	Low	Close							High	Low	High	Low	High	Low
31½	16½	400	20¾	20¼	20¾	Amerada Corp.	(sh)	922,075	N.P.	50cQ	10-31-30	43⅞	27⅛	42⅝	17½	31½	16½
37	5⅛	400	9¼	8⅞	8⅞	American Republics Corp.	(sh)	209,180	N.P.	....	.....	85	51⅛	64⅜	12½	37	5⅛
51	26½	60	26¾	26½	26½	Associated Oil		$57,260,300	$25	50cQ	12-31-30	53⅜	37½	47¼	34½	51	30
51⅜	16⅝	3,800	22⅜	21⅛	21⅛	Atlantic Refining		$66,763,775	$25	25cQ†	12-15-30	66⅜	50	77⅞	30	51⅜	16⅝
34	8⅝	3,100	13½	12⅝	12⅞	Barnsdall Corp. A		$56,546,600	$25	50cQ	11- 6-30	54	20	49¼	20	34	8⅝
30½	7¾	7,000	11	10½	11	Continental Oil of Delaware	(sh)	4,741,554	N.P.	....	12-15-27	..	..	47⅛	18	30½	7¾
71½	22⅜	900	27	25⅝	26⅝	General Asphalt	(sh)	413,333	N.P.	75cQ	12-15-30	94⅞	68	94¾	42¼	71½	22⅜
116⅞	29¼	3,400	42¼	40¼	41	Houston Oil		$24,968,600	$100	....	10-17-30	167	79	109	26	116⅞	29¼
11¾	6⅝	5,100	9¾	9	9⅛	Houston Oil (new)	(sh)	998,744	$25	....	.....	..	..	..	..	11¾	6⅝
28¾	3	7,100	4⅜	4¼	4¼	Indian Refining		$12,565,070	$10	....	.....	39⅝	9	53	13⅛	17	2
12	3½	200	4	4	4	Louisiana Oil Refining	(sh)	1,190,063	N.P.	....	.....	19¾	9⅜	18	7	12	3½
10⅜	1⅝	100	2½	2½	2½	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	25½	12½	18½	5⅛	10⅜	1⅜
37	9¾	15,900	14	13	13¾	Mexican Seaboard	(sh)	1,244,383	N.P.	....	10- 1-24	72	4⅝	59⅜	8¼	37	9¾
33	11	3,200	16⅜	15⅝	16¼	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	50cQ	11-15-30	44½	25⅛	39⅞	22⅛	32	11
32	16	2,200	19⅜	18⅛	19¼	Ohio Oil	(sh)	6,648,052	N.P.	50cQ	12-15-30	84	58½	79⅞	64¼	32	16
64½	42	100	43	43	43	Pan American P. & T.		$50,084,700	$50	....	12-20-27	50⅞	38¼	69	40½	46½	42
67¼	30	200	35	34⅜	35	Pan American P. & T. "B"		$121,110,650	$50	....	12-20-27	58⅞	37⅜	69¼	40½	67¼	30
		No sales.				Pan American Western "B"		400,000	N.P.	....	1-30-27	28⅜	15½	18½	13⅝	..	..
12¾	1¾	100	3	3	3	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	21¾	11½	15¼	3	12¾	1¾
80	47½	100	70	70	70	Panhandle P. & R. pfd.		$2,564,400	$100	....	7- 2-30	108	70	76	47½	80	47½
44⅝	11½	18,600	16⅜	15⅜	15⅝	Phillips Petroleum	(sh)	2,593,075	N.P.	50cQ	1- 2-31	53⅞	35¼	47	24¼	44⅜	11½
2½	½	900	¾	⅝	⅝	Pierce Oil Corp.		$29,622,831	$25	....	.....	5¼	½	3⅜	1	2½	½
7⅛	1⅜	1,100	2½	2⅜	2⅜	Pierce Petroleum	(sh)	2,500,000	N.P.	10c	11-15-30	7	3½	5⅞	½	7⅛	1⅜
54	11¼	200	17¾	17½	17½	Prairie Oil & Gas		$60,848,000	$25	50cQ*	12-31-30	68	46	65⅜	40½	54	11¼
60	16⅝	2,600	22⅛	21⅛	21¾	Prairie Pipe Line		$101,250,000	$25	75cQ†	12-31-30	280	172	65	45	60	16⅝
11⅞	1	300	3½	3½	3½	Producers & Refiners		$37,438,950	$50	....	9-15-23	29⅞	16	25⅞	4	11⅞	1
40	11½	20	13¾	13¾	13¾	Producers & Refiners pfd.		$2,845,350	$50	....	5- 4-25	49⅝	41	46¾	25½	40	11½
27¼	7⅝	2,000	11	10⅞	10⅞	Pure Oil		$75,959,250	$25	37½cQ	9- 1-30	31⅝	19	30¾	20	27¼	7⅝
9¾	4⅛	5,000	6¼	5½	5½	Richfield Oil (new)		$52,410,875	N.P.	....	.....	56	23	49⅝	20	9¾	4⅛
25¾	5	2,300	7⅜	7	7	Rio Grande Oil	(sh)	1.236,270	N.P.	50cQ	7-25-30	37½	32	42½	15	25⅜	5
56½	36⅞	800	41	40⅜	40⅜	Royal Dutch, N. Y.	(sh)	611,303	....	$1.875	8-13-30	64	44⅝	64	43⅛	56½	36⅞
48⅜	26	30	30½	30½	30½	Shell Transport & Trading Co.		£23,985,000	£1	$1.45	7-28-30	47⅞	41⅜	51½	40⅝	48⅜	26
25½	5¼	9,760	9¼	8⅝	9¼	Shell Union Oil	(sh)	13.066,497	N.P.	35cQ	6-30-30	39¼	23¼	31⅜	19	25½	5¼
37	5⅝	400	8½	8	8½	Simms Petroleum		$8,353,620	$10	40cQ	9-15-30	27¼	18¼	40⅛	15	37	5⅝
32	9¾	5,900	12⅛	11⅞	11⅞	Sinclair Consolidated	(sh)	5,500,000	N.P.	25cQ	1 -15-30	46¾	17⅜	45	21	32	9¾
112¼	86	100	90	90	90	Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	11-15-30	110	102½	111	103	112¼	86
42	10⅛	2,400	12⅞	12	12¾	Skelly Oil		$27,441,250	$25	50cQ	12-15-30	42⅝	25	40½	28	42	10⅛
75	42¼	2,300	49¾	48⅜	48¾	Standard of California	(sh)	12.594,098	N.P.	62½cQ§	12-15-30	80	63	81⅞	51½	75	42¼
49	14⅜	500	17⅝	17½	17½	Standard of Kansas		$8,000,000	$25	50cQ	12-15-30	37¾	15	33¾	18	49	14⅜
84⅞	43½	29,100	51	50	50½	Standard Oil of New Jersey		$634,999,200	$25	25cQ*	12-15-30	59⅜	37¾	83	49	84⅞	32½
40⅜	19¾	1,700	25	24½	24¾	Standard Oil of New York		$445,223,675	$25	40cQ	12-15-30	33¼	28⅜	48⅛	31¾	40⅜	19¾
70	39	300	40¾	40¾	40¾	Sun Oil	(sh)	1,416,869	N.P.	25cQ	12-15-30	77	31½	68⅜	55	70	39
9⅜	¾	1,000	1⅛	1	1⅛	Superior Oil Corp.	(sh)	776,979	N.P.	....	12-20-20	..	..	24	5¼	9⅜	¾
60½	28¼	9,800	35⅞	34⅞	35	The Texas Corporation		$246.204.900	$25	75cO	1- 1-30	74¾	50	71⅞	50	..	..
14½	4	1,500	5⅛	4⅞	4⅞	Texas Pacific Coal & Oil Co.		$9,304,890	$10	2½%A‡	12-31-29	26⅝	12⅛	23⅞	9½	14½	4
31	12	400	14½	13	13	Tide Water Oil	(sh)	2,191,759	N.P.	20cQ	12-31-30	41½	19⅝	40	14	31	13
94¾	68	100	72	72	72	Tide Water 5% pfd.	(sh)	19,947,000	N.P.	$1.50Q	11-15-30	100⅛	86	97½	85⅛	94⅞	71
17¾	5⅞	7,100	9	8¾	8¾	Tide Water Associated	(sh)	5,560,424	N.P.	30cSA	1- 2-31	25	14¾	23½	10	17¾	5⅞
89¾	53	300	60⅛	59	60⅛	Tide Water Associated pfd.		$73.284,500	....	$1.50Q	1- 2-31	..	..	90⅞	74⅛	89¾	55
50	20⅛	900	24¾	24½	24⅝	Union Oil of California		$104,342,375	$25	50cQ	11-10-30	58	42⅜	57	42⅛	50	20⅛
38½	23	100	25⅛	25⅛	25⅛	Union Tank Car	(sh)	1,254,048	$100	40cQ	12- 1-30	128⅛	110	163¾	121⅞	38½	23
27	4¼	200	5	5	5	Warner-Quinlan	(sh)	632,948	N.P.	25cQ	7- 1-30	44⅞	26	42⅞	15	27	4¼
21	6½	1,100	7¼	6½	6½	Wilcox Oil & Gas	(sh)	428,907	N.P.	25cQ	5-10-28	..	..	29¾	12⅞	21	6½

*Plus extra dividend of 25 cents. †Plus extra dividend of 50 cents. ‡Payable inn stock. §Plus 2 per cent stock dividend. x Ex-dividend.
In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been splits in the stock.

STRONGER GASOLINE TONE AT CHICAGO

(Continued from Page 168)

for large quantities as a rule. Many are just buying for their present needs until they are better assured as to their wants. Some of the large steel companies have bought, but with many concerns both large and small and with the railroads, for that matter, they have uncompleted contracts which they expect to take out before placing any new orders. Prices continue to be firm for zero oils with low viscosity and sulphur. There have been some offerings of Texas oil with a zero cold test but high viscosity which could have been bought a little below the going market but generally the higher cold test oils are being held for milder weather when the premium on zero oils has disappeared. There is some figuring on the shipping of fuel oils into Detroit and even to Milwaukee and Chicago by lake from some of the eastern plants but with a good business doing in the automobile industry there is not commonly any large quantity of oil to be bought and not at competitive prices. Some refiners have insisted on quoting prices on fuel oils with a gravity of 8 degrees and from that up to 10 or 12 degrees, but there is no present sale here for such oil. The lack of any real cold weather is felt by the heavy oil dealers who find that the quantity of fuel consumed has some connection with the temperature. There are some large plants which rely on the electric current for their power and use fuel oil for heating.

Lub Oils

There is nothing new in the situation regarding lub oils. The demand is light, in fact there is very little doing in any way. It has been reported that the Shell Petroleum Corp., which is arranging to supply its own stations as well as its contract customers with Pennsylvania grade lubricating oils, has arranged for its supply of bright stocks with the Pure Oil Co. The latter refiner has had an enviable reputation for the quality of its bright stocks which it refined from crude run to its Cabin Creek plant. Last year it refined considerable lubricating oils at its Heath Ohio plant which it has materially enlarged, adding two cracking units and bubble towers. The crude used was from Mount Pleasant, Mich. Some producers in that field have contended that the crude was a true Pennsylvania grade crude. Up to the present season the Pure Oil Co. has never had any bright stocks to sell.

The gallonage over December was generally much better than the first part of the month indicated, many distributors doing a very good business for that month. One large dealer in this state reports that his December business was the third largest for the year being exceeded only by July and September. The month is starting off very well with a number of large distributors and with a continuance of fine weather, such as we have been having, promises to compare favorably with last year. The placing of all prices back on a normal basis where they had been cut has had a most beneficial effect but there are some points where the tendency is to cut prices again. In fact, the situation is still mixed but the number of points with cut prices has been decidedly decreased. The new contract of the Standard Oil Co., and other major distributors is a simple agreement for the sale of the company's gasoline for one year and is applicable to many individual instances so that it promises to be largely used.

PANHANDLE FIELDS

(Continued from Page 100)

Woodley Petroleum Co.'s No. 2 Moore, gas sand 681-685 feet, initial production 400,000 feet of gas, total depth 690 feet.

Young County

Arp and McClanahan's No. 1 Barrett, Mansye, dry and abandoned, total depth 650 feet. Atlantic Oil Production Co.'s No. 1 Jeffrey, dry and abandoned, total depth 852 feet. Beavers and others' No. 1 Newman, top pay 541 feet, initial production 8 bbls., total depth 561 feet. Belknap Coal Co.'s No. 5 fee, top pay 654 feet, initial production 48 bbls., total depth 665 feet. Frank E. Boardman's No. 1 Belknap Coal Co., dry and abandoned, total depth 738 feet. Deep Oil Development Co.'s No. 1 Logan, dry and abandoned, total depth 801 feet. F. H. E. Oil Co. and others' No. 1 Finch, top pay 648 feet, initial production 280 bbls., total depth 659 feet. King Royalty Co.'s No. 1 Bullington, top pay 688 feet, initial production 350 bbls., total depth 710 feet. Riggs & Mollenkoph's No. 1 Ward, dry and abandoned, total depth 805 feet. Staley and others' No. 1 Meaders, dry and abandoned, total depth 832 feet. The Texas Company's No. 3-B Finch and others, top pay 660 feet, initial production 220 bbls., total depth 675 feet. Willis and others' No. 4 Perkins, dry and abandoned, total depth 700 feet. Young Brothers and Terrell's No. 4 Larimore, dry and abandoned, total depth 700 feet. Connor Sons and Cloughly's No. 4 Ford, temporarily abandoned, total depth 1,900 feet. Moncrief and others' No. 2 Railroad right of way, temporarily abandoned location. Seaboard Oil & Gas Co.'s No. 2 Graham, temporarily abandoned, total depth 2,990 feet. E. C. Stovall's No. 13 fee, temporarily abandoned, total depth 3,963 feet.

THEORIES IN OIL'S ORIGIN QUESTIONED

(Continued from Page 66)

set up when this oil was being formed and that it was not necessary to try to carry the oil underground long distances from the source beds to its present reservoirs.

Reference was made to the recent extensive investigations of Parker D. Trask of Stanford University, California, on the organic content of the present-day sediments. The results of this work seem to indicate a decided lack of rich organic material in present-day sediments as well as the almost complete absence of free oil. Mr. Clark goes on to point out that this is hardly a fair test of the organic contents of the material in fossil sediments because of the contrast in the present-day areas of sedimentation as compared with conditions of sedimentation during geologic periods in which oil source material was laid down.

Areas of Sedimentation Differ

Today our areas of sedimentation are confined almost entirely to continental shelves, whereas in past geologic time the areas of sedimentation were broad, epicontinental seas in which conditions probably differed very materially from those found at this time.

In support of his theory that local rich accumulations of organic material were responsible for oil pools, Mr. Clark cited studies of A. W. Giles, of the University of Arkansas, Fayetteville, Ark., published in the October, 1930, issue of A.A.P.G. Bulletin, "Pennsylvanian Climates and Paleontology," in which Mr. Giles concludes that the distribution of organic life during Pennsylvanian time was governed and controlled by local climatic conditions and by routes of travel of marine life.

Mr. Clark places particular emphasis on the role played by unconformities in the formation and accumulation of organic material and in turn the formation of oil pools. Many oil pools are associated with major unconformities, in which he postulated that any accumulation in truncated domes and anticlines previous to uplifted and eroded surfaces would have been dissipated and lost during these periods of erosion.

It is a well-known fact that there are many places on the earth's surface at this time where erosion has exposed the ends of formations that have been reservoirs for oil and gas, which have escaped and now made evident on'y by the accumulation of asphaltic sediment at the outcrop of the stratum.

Could Have Occurred in Past Ages

Mr. Clark reasons that what is now evident could have occurred in past ages and he places the time of accumulation of the oil now present in the buried pools in the truncated structures as being later than the period of erosion and the burial of strata by the deposition of the cap rock material. In many limestone pools, of which Yates is an example, there are none of the so-called source beds (bituminous limestones and shales) to account for the large accumulations of oil in these pools. In such instances it is postulated that local rich accumulations of organic material were in contact with the reservoir at the locality where the oil pool is formed.

The advocates of long migration of oil, Mr. Clark said, fail to account for the absence of disseminated oil and the oil which, of necessity, must have adhered to the grains of the reservoir rock in the area through which the oil moved in the reservoir in order to collect in the trap. It therefore seems necessary in order to account for the long migration of oil through reservoir rocks that nearly 100 per cent recovery or removal of the oil has occurred during this period of movement from one portion of the formation to the place where the oil is now found in drilling.

Accounting for Washing of Sands

This complete washing of sands by water during this period of movement, as would be necessary if the migration of the oil has been over long distances, cannot be accounted for by examination of samples of well cuttings taken from formations down dip in an oil pool, for such water sands are nearly always quite free of any trace of petroleum. In washing sands of oil as is done in Pechelbronn, Alsace, France, and at Wietze, Hanover, Germany, it has been found that it is very difficult to remove all the oil by the use of water alone, and in laboratory work it is common practice to use carbon tetrachloride, ether or some other solvent to remove the heavy oil that remains on sands taken from exposed strata.

It therefore seems difficult to account for a complete washing action having taken place in the formations underground during the period of migration of oil from one position to another, and this is one of the mechanical conditions Mr. Clark finds hard to explain if the old theory of long migration is to be sustained.

Mr. Clark also pointed out that the vertical migration of oil through impervious rocks and water-saturated sandstones fails in many instances to account for oil in more than one sand in a given field. Proponents of this theory of migration fail to explain why oil is not found in all of the possible reservoirs through which the oil would have to penetrate in order to accumulate in a few favored reservoirs in its upward migration. Also the old theories fail to explain the absence of oil in many structural and sand lenze traps which are, so far as available information is concerned, as favorably located for such accumulation as are the reservoir rocks containing oil pools.

Does Not Claim to Be Final

Mr. Clark made it clear that the theory of rich local accumulation of organic material to account for oil pools, does not claim to be the final answer but suggested that it is a line of investigation that has received too little attention and one that should be thoroughly studied along with other theories.

In his conclusion, Mr. Clark pointed out that when the genesis of petroleum and its accumulation into pools is clearly established whatever the principle or process involved, it will be applicable to all oil pools. Nature probably has no favorites and does not pick out a separate principle to account for each pool or even each class of pools, and the answer once found will apply equally well to all accumulations of petroleum in reservoirs of all types.

In the discussion that followed Mr. Clarke's paper many phases of the problem were touched upon, but it was agreed by all that it is an important problem and needs more study. The geological periods during which the various pools were formed should be carefully ascertained, as age and length of time occupied in forming an oil pool will have a great deal of bearing upon the methods followed by nature in doing this work.

There may be physical laws that will account for movement of oil and water though porous mediums that will show that the law as applied to water is different from the law as applied to oil because of difference in the characteristcs of these two fluids and work is now being done at the University of Southern California by Dr. R. S. Millikan for the research committee of the American Petroleum Institute that may have a direct bearing upon this whole problem.

Work of Doctor Millikan

Under Project 37, Doctor Millikan is directing the work of investigating "The Fundamentals of the Retention of Oil by Sand" and is working with equipment suitable to develop upward of 3,000 pounds pressure, and can observe the actions of oil, gas and water in sands under those high pressure conditions. Doctor Millikan has already made preliminary reports upon his work involving pressures up to 2,000 pounds and soon will carry these same experiments on with the working pressures increased to 3,000 pounds.

In addition to this work Ben E. Lindsly, petroleum engineer with the United States Bureau of Mines, Bartlesville, Okla., station, has been doing investigating at the well head with pressure bombs that has given interesting results. If these results can be checked with bottom hole data obtained by the use of accurate recording devices lowered to the bottom of the well it is thought that interpretations of all the data can be made and this will give valuable information to be used by the geologist in his study of accumulation of oil, gas and water in underground reservoirs, because it will explain to some extent the mechanics of oil movements. Work is now being done in the development of bottom hole pressure recording devices that give promise of obtaining much important data concerning underground conditions in oil pools.

CHARLES A. STRAW OF JERSEY STANDARD DIES

NEW YORK, Jan. 12.—Charles A. Straw, vice president and a director of Standard Development Co., subsidiary of Standard Oil Co. (New Jersey), died at Mount Sinai Hospital here Friday night after a lingering illness, at the age of 52 years.

Graduated from Harvard University in 1901, Mr. Straw returned to the university as assistant professor in chemistry, and held a similar post at Massachussetts Institute of Technology. He later entered the service of the War Department as smokeless powder inspector, resigning in 1902 to enter the patent office where he remained 10 years. During this period he studied law at George Washington University and was admitted to practice in 1912. During the World War he returned to the ordnance department as a captain, resigning after the armistice to become an attorney in the patent department of the Goodyear Tire & Rubber Co. He has been associated with Standard Oil Co. (New Jersey) for the past 10 years.

CALIFORNIA CRUDE OIL PRICES

(Continued from Page 175)

Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 50 cents.

Column 5—Price change posted by Standard of California September 16.

Column 6—Oil below 14 gravity posted at 45 cents.

Column 8—Posted by General Petroleum Co.

Kettleman Hills—Union Oil Co., September 22, 35 to 39 gravity, $1.10; 40 to 44 gravity, $1.20; 45 to 49 gravity, $1.35; 50 to 54 gravity, $1.50; 55 gravity and above, $1.65. Standard Oil Co. of California, 55 gravity and above, $1.65.

ANNOUNCE DECISION IN CRACKING CASE

(Continued from Page 70)

the same pressure at all points through a condenser in open communication with said stream of oil, whereby low boiling or converted oil is continuously produced and collected as an ultimate product in said condenser.

Claim 7: A process of converting oil which consists in maintaining a body of oil in a pipe-like heater, heating said oil in liquid form in said heater at a cracking temperature, maintaining vapor pressure on said oil while being subjected to the cracking temperature and condensing the vapors generated by passing them under substantially the same pressure at all points through a condenser, whereby lower boiling or converted oil is continuously produced and collected as an ultimate product in said condenser.

Claim 8: A process of converting oil which consists in continuously passing oil in a relatively thin stream under pressure through a pipe-like heater to a larger container or vapor dome in open communication therewith, heating said oil locally as it passes through said pipe-like heater to a cracking temperature, maintaining substantially the same vapor pressure on said oil in said heater and vapor dome and conducting off and condensing the vapors in said dome.

Claim 9: A process of converting oil which consists in continuously passing oil in a relatively thin stream under pressure through a pipe-like heater to a larger container or vapor dome in open communication therewith whereby the pressure will be substantially the same in said heater and dome, heating said oil locally as it passes through said pipe-like heater to a cracking temperature, passing the vapors from said dome through connections to a condenser all of the connections to and through the condenser being in open communication so as to insure a substantially uniform pressure from the heater through the dome and condenser.

Claim 15: A process of converting oil which consists in causing oil to flow from a source of supply in a confined liquid stream restricted in cross section, heating said liquid stream to a cracking temperature, thereby generating vapor pressure, separating out the heavy residue and carbon and passing the cracked vapors under substantially the same pressure through a condenser in open communication with said oil.

Claim 17: A process of converting oil which consists in continuously passing oil in a relatively thin stream under pressure through a pipe-like heater to a larger container or vapor dome in open communication therewith, heating said oil locally as it passes through said pipe-like heater to a cracking temperature removing from said pipe-like heater and collecting carbon resulting in said pipe-like heater, maintaining substantially the same vapor pressure on said oil in said heater and vapor dome and conducting off and condensing the vapors in said dome.

Claim 24: A process of treating high boiling hydrocarbons to obtain lower boiling hydrocarbons which consists in supplying the high boiling hydrocarbons to a closed chamber, subjecting the high boiling hydrocarbons to a cracking temperature in said closed chamber under pressure of the evolved vapors, moving carbon from the heated portion of said heated chamber and passing the vapors evolved through connections to a condenser all in open communication so as to insure a substantially uniform pressure from the heater through the condenser.

Claim 25: A method of converting oil which consists in feeding oil under pressure to a chamber, heating said oil in liquid form in the chamber to a cracking temperature while maintaining a vapor pressure on the oil in said chamber, condensing the vapors generated by passing them through connections to a condenser, all of the connections to and through the condenser being in open communication so as to insure a substantially uniform pressure from the chamber through the condenser, withdrawing lighter condensate from the condenser and returning heavier condensate to said chamber for repetition of the treatment, whereby lower boiling condensate or converted oil is ultimately produced in said chamber.

Claim 26: A process of changing high boiling hydrocarbon oils to obtain lower boiling hydrocarbon oils which consists in subjecting the high boiling hydrocarbons in liquid form in a chamber to a cracking temperature therein, condensing the evolved vapors by permitting them to pass freely to a condenser and maintaining a substantial pressure throughout the cracking chamber and condenser solely by the vapors evolved in the chamber and withdrawing the lower boiling oils from the condenser as the ultimate product.

Claim 27: A method of converting oils to obtain a relatively large yield of lower boiling oils which consists in heating the oils to be converted, in liquid form, in a chamber to a cracking temperature while maintaining a vapor pressure on said oils in said chamber solely by the vapors generated therein, and condensing said generated vapors by passing them through connections to a condenser all in open communication so as to insure a substantially uniform pressure from the chamber through the condenser and withdrawing the lower boiling oils from the condenser as the ultimate product.

Claim 28: A method of converting oils to obtain a relatively large yield of lower boiling oils which consists in supplying oil to a chamber, supplying heat to a body of oil in liquid form therein at a temperature sufficient to crack the oil, condensing the evolved vapors by continuously passing them to a condenser in open communication with the chamber and confining the evolved vapors for maintaining a material pressure above atmospheric effected by the volatile constituents of the liquid so as to insure a substantially uniform self-imposed pressure from the chamber through the condenser and withdrawing the converted oil from the condenser as the ultimate product.

Claim 29: A process of treating high boiling hydrocarbons to obtain a relatively large yield of lower boiling hydrocarbons which consists in subjecting a body of the high boiling hydrocarbons in liquid form to a cracking temperature in a closed chamber, and condensing the vapors evolved by passing them through a condenser in free communication with the chamber and while subjected solely to the pressure of the evolved vapors in excess of atmospheric pressure in the chamber and to and through the condenser and withdrawing the converted oil from the condenser as the ultimate product.

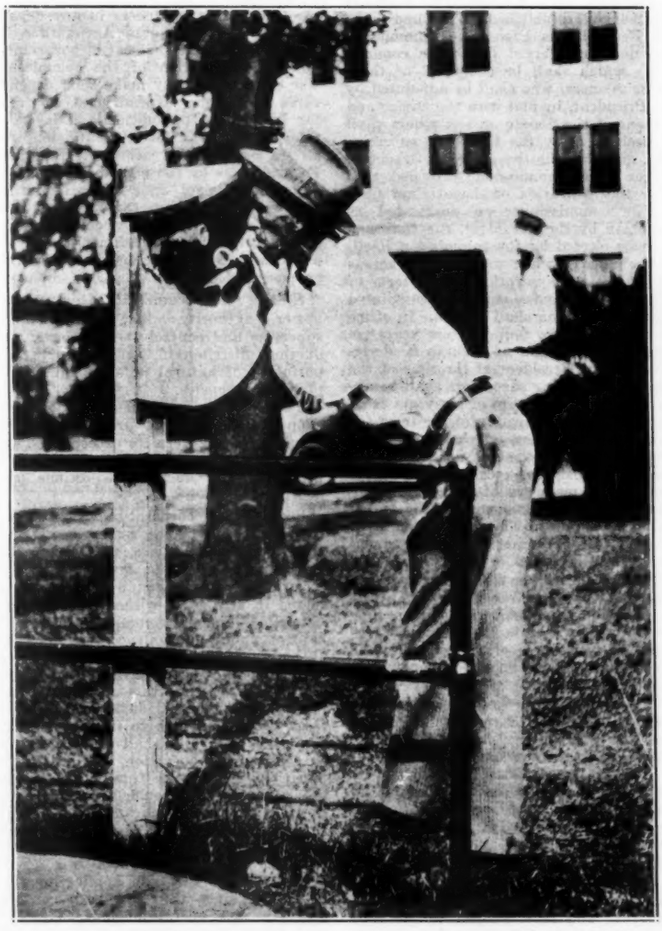
PRORATION PLAN SUPPORT MAY AID PACIFIC MARKET

LOS ANGELES, Calif., Jan. 12.—There was no great change in refined oil prices on the Pacific Coast during the past week, but the completion of tentative plans by major companies to provide an outlet for all producers of crude oil conforming with the curtailment program will undoubtedly strengthen the refined oil market. This projected improvement may not become evident immediately due to the large stocks of gasoline and fuel oil built up by independent refiners during the past five or six weeks as it will take some time to liquidate this oil. It is unnecessary to say that this possible strengthening of the refined oil structure depends to a large extent upon the effectiveness of curtailment work, especially in the Playa Del Rey and Long Beach Fields.

If any great number of operators fail to curtail and this oil continues to adversely affect gasoline prices, the present curtailment plan will not accomplish the desired results. The chief difficulty along this line lies in the fact that it is possible for some operators to produce to the limit and still make money, even by cutting prices. The situation at Playa Del Rey can be used as an illustration. If operators in this field agree to reduce production 50 per cent they will be paid, on an average 84 cents per barrel, for crude oil.

It is quite evident that if some operators hold out and continue producing to the maximum they would be able to dispose of current production at 50 cents per barrel and still be 16 cents to the good. This practice would in time seriously jeopardize curtailment work and might ultimately force major companies to reduce prices. Natural gasoline has practically become a drug in the California market with the result that prices have shown a tendency to sag during the past few weeks. Refiners interested in the Kettleman Hills and Lost Hills-Belridge Fields are not inclined to make any additional committments as the Temblor production in these districts will yield increased amounts of natural gas from time to time, depending upon the amount of development work undertaken. Some of the larger companies have not only refused to make new contracts but are even cancelling existing contracts and raising specifications on casinghead for future delivery.

ELECTRIC "MATCHBOX" IN TEXAS FIELDS



—International Newsreel Photo.

Electric "Matchbox" which has replaced matches in Texas oil fields, to reduce possible fire hazard. Workers are forbidden to carry matches, and in order to give employes an opportunity for smoking, the companies erected a few of these electric lighters on remote sections of the fields. The lighters are protected so that the current will not injure the user.

GULF GASOLINE MARKETS SHOWING SMALL ADVANCE

HOUSTON, Tex., Jan. 12.—A slightly firmer gasoline situation together with a better feeling generally marked the Gulf Coast refinery market the past week. Gasolines at the opening of this week were around an eighth cent higher than last Monday. Based on North Texas prices, contract material was being moved out of coastal refineries not under 5⅜ cents while spot material was being held around 6 cents minimum.

No price changes were indicated in other products but refiners apparently are in fair shape in stocks and in line for expected advances. At least no move toward price concessions were noted during the week.

Gas oil continued firm at 3⅛ cents. While this price is lower than the market was two weeks ago the period of buying the past 10 days removed virtually all distress material and sellers seem to be able to maintain a fairly firm price level at the new price.

Fuel oil still is quoted at a minimum of 65 cents for cargo lot material. Some off specification product possibly is available as low as 62½ cents but refiners are in fair shape and are making no effort to sell any lower than the present market. Sales, however, generally are confined to routine outlet channels. Bunker fuel is steady at 90 cents.

Lubricating oils are slow but no price cutting has been done so far as is reported. Some sellers are doing a fair amount of business considering general conditions and for the most part are encouraged.

MAGNOLIA PROMOTIONS

FORT WORTH, Tex., Jan. 12.—J. C. Stephens, formerly with the Magnolia Petroleum Co. in charge of the Fort Worth, Tex., office, has been promoted to a vice presidency and is moving his headquarters to Dallas. He will be in charge of transportation for the company. Mr. Stephens has been with the company for 18 years, 11½ years of which have been spent in Fort Worth. W. O. Gatton, who for 11 years has been manager of the Amarillo district, is being transferred to Fort Worth to fill the place left open by Mr. Stephens' promotion.

CAPPER MEASURE IS REJECTED AS INVASION

(Continued from Page 61)

to try to rush it through the short session even if there were a chance of success. Every state is interested in the principle involved in the Capper bill. Some of them may not be interested yet in natural gas, but they all are interested in any measure that may interfere with rights that properly belong to the states."

Afraid of "Usual Paragraph"

A reference to Section 11 of the Capper bill, providing that "nothing in this act shall be construed to in any way abrogate or restrict the jurisdiction of state regulatory bodies or to take away from state regulatory bodies any supervision or control over gas pipe line agencies that they are now exercising," prompted John E. Benton, Washington, D. C., general solicitor for the National Association of Railroad and Utilities Commissions, to say: "If we try to safeguard state rights by the usual simple paragraph such as is attached to the Capper bill, I'm afraid of it." Mr. Benton said that while there was a feeling among the commissioners present that there was need of federal regulation, they did not approve such regulation as it was defined in the Capper bill. He urged that any substitute measure offered give the largest possible degree of recognition to state regulatory bodies.

Others expressed either unqualified opposition to federal control of gas pipe lines or to such control as it would be exercised under the terms of the Capper bill.

Two United States Supreme Court decisions dealing with the interstate character of gas transportation by pipe line were referred to frequently throughout the discussion. These were in the Kansas Natural Gas Co. and the Pennsylvania Gas Co. cases. In the first of these, "Missouri ex rel. Barrett vs. Kansas Natural Gas Co.," the opinion states:

"Here the sale of gas is in wholesale quantities, not to consumers, but to distributing companies for resale to consumers in numerous cities and communities in different states. The transportation, sale and delivery constitute an unbroken chain, fundamentally interstate from beginning to end and of such continuity as to amount to an established course of business. The paramount interest is not local, but national, admitting of and requiring uniformity of regulation."

Difference Between Cases Explained

In "Pennsylvania Gas Co. vs. Public Service Commission," the opinion says:

"We think that the transmission and sale of natural gas produced in one state, transported by means of pipe lines and directly furnished to consumers in another state is interstate commerce within the principles of the cases already determined by this court. * * * This case differs from Public Utilities Commission vs. Landon, wherein we dealt with the piping of natural gas from one state to another and its sale to local independent gas companies in the receiving state, and held that the retailing of gas by the local companies to their consumers was intrastate commerce although the mains of the local companies receiving and distributing the gas to local consumers were connected permanently with those of the transmitting company. Under the circumstances set forth in that case we held that the interstate movement ended when the gas passed into the local mains, that the rates to be charged by the local companies had but an indirect effect upon interstate commerce and therefore the matter was subject to local regulation. In the instant case the gas is transmitted directly from the source of supply in Pennsylvania to the consumers in the cities and towns of New York and Pennsylvania above mentioned. The transmission is direct and without intervention of any sort between the seller and the buyer. The transmission is continuous and single and is in our opinion a transmission in interstate commerce."

No Approval of Bill

To obtain a definite expression of sentiment, Mr. Williams asked for a roll call of the states represented, all those opposed to the Capper bill but not necessarily opposed to some form of federal regulation to vote "yes." For the reason that the Capper bill originated in the Kansas commission, that State did not vote. All the rest voted yes.

C. J. Laurisch, St. Paul, Minn., member of the state railroad and warehouse commission of that State, moved that a committee be appointed by Mr. Montgomery, the chairman of this committee to be selected from the Kansas commission, to confer with the executive committee and the legislative committee of the National Association of Railroad and Utilities Commissions and draw a bill to be substituted for the Capper bill, this substitute bill to be submitted later "to this body."

This motion was adopted unanimously and Mr. Montgomery appointed the following committee: Milton R. Stahl, Missouri; Harold E. West, Maryland; Francis Williams, Louisiana; Paul A. Walker, Oklahoma; C. J. Laurisch, Minnesota; Robert H. Dunn, Michigan; John E. Benton, District of Columbia. Mr. Montgomery himself was chosen as the member from Kansas to act as chairman.

The meeting adjourned with the understanding that another conference would be called to take action on the substitute bill drafted by the committee. Before the next meeting is held copies of the substitute bill are to be sent to public service commissioners throughout the country for their study and criticism.

Attending the meeting in an official capacity were the following:

Georgia—E. M. Price.
Indiana—C. F. McIntosh.
Iowa—Charles Webster, B. M. Richardson, Fred P. Woodruff.
Kansas—Earl H. Hatcher, Jesse W. Greenleaf, C. W. Steiger, Charles D. Shukers, Clinton H. Montgomery, Robert C. Foulston.
Louisiana—Francis Williams.
Maryland—Harold E. West.
Michigan—Robert H. Dunn.
Minnesota—O. P. B. Jacobson, J. O. Johnson, D. F. Jurgensen, C. J. Laurisch.
Missouri—T. J. Brown, D. D. McDonald, J. H. Porter, Milton R. Stahl, John D. Killoren.
North Dakota—Ben C. Larkin.
Oklahoma—Paul A. Walker.
Tennessee—Malcolm R. Williams.
Washington, D. C.—John E. Benton.

TEXT OF CAPPER BILL, SEEKING TO PLACE GAS UNDER FEDERAL CONTROL

A bill to regulate interstate commerce by pipe line agencies operating in the purchase, production, distribution, sale or transportation of natural and artificial gas.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

Section 1. That a commission is hereby created and established, to be known as the Federal Gas Pipe Line Commission (hereinafter referred to as the commission) which shall be composed of three commissioners, who shall be appointed by the President, by and with the advice and consent of the Senate, one of whom shall be designated by the President as chairman and shall be the principal executive officer of the commission; provided, that after the expiration of the original term of the commissioner so designated as chairman by the President, the chairmen shall be elected by the commission itself, each chairman when so elected to act as such until the expiration of his term of office. The commissioners first appointed under this section shall continue in office for terms of two, four and six years respectively, the term of each to be designated by the President at the time of the nomination. Their successors shall be appointed each for a term of six years from the date of the expiration of the term for which his predecessor was appointed. Said commissioners shall not engage in any other business, vocation or employment. Two members of the commission shall constitute a quorum for the transaction of business. The commission shall have an official seal of which judicial notice shall be taken.

Each commissioner shall receive an annual salary of $10,000 together with necessary traveling and subsistence expense, or per deim allowance in lieu thereof, within the limitations prescribed by law, while away from the seat of government upon official business.

The principal office of the commission shall be in the District of Columbia, where its general sessions shall be held; but whenever the convenience of the public or of the parties may be promoted, or delay or expense prevented thereby, the commission may hold special sessions in any part of the United States.

Sec. 2. The commission shall have authority to appoint, specify the duties and fix the salaries of a secretary, a chief engineer, a general counsel and a chief accountant; and may, subject to the civil service laws, appoint such other officers and employes as are necessary in the execution of its functions, and fix their salaries in accordance with the classification act of 1923, as amended. The commission may request the President to detail an officer, or officers, of the Corps of Engineers, or other branch of the United States Army, to serve the commission as engineer officer, or officers, or in any capacity, in field work outside the seat of government, their duties to be prescribed by the commission; and such detail is hereby authorized. The President may also, at the request of the commission, detail, assign or transfer to the commission, engineers in any departments of the Interior or Agriculture, for field work outside the seat of government under the direction of the commission. The commission may make such expenditures (including expenditures for rent, for law books, periodicals and books of reference, and for printing and binding) as are necessary to execute its functions. Expenditures by the commission shall be allowed and paid upon the presentation of itemized vouchers therefor, approved by the chairman of the commission, or such other member or officer as may be authorized by the commission for that purpose.

Sec. 3. The commission is given full power, authority and jurisdiction to supervise and control the purchase, production, distribution, sale and/or transportation of natural or artificial gas by pipe line agencies.

The commission shall have power to adopt reasonable and proper rules and regulations to govern its proceedings, and to regulate the mode and manner of its investigations, audits, inspections and hearings.

Sec. 4. No corporation, nor person, their lessees, trustees, or receivers shall engage in the purchase, production, distribution, sale and/or transportation of natural or artificial gas in interstate commerce in any state without first having obtained from the commission a certificate of public convenience and necessity authorizing such operations; provided, that pipe line agencies in bona fide operation at the time this act becomes effective shall have 90 days from said effective date in which to file applications for certificates and shall have the right to continue in operation until their applications have been finally decided by the commission; provided further, that the fact that the applicant for a certificate was in bona fide operation at least one year prior to the opening date of the legislative session at which this act is passed and at the time application was made and since then has been continuously in such operation shall be considered prima facie evidence as to the public necessity of such operation.

Sec. 5. Any person or corporation, their lessees, trustees or receivers, desiring such certificate shall make application therefor in writing, which application shall be verified under oath and shall contain such information as the commission may order or require.

Sec. 6. Upon the filing of an application the commission shall fix the time and place for hearing thereon and shall require the applicant to give such notice thereof as it may require. The official hearing on any application filed more than 90 days after the effective date of this act shall be heard not less than 20 nor more than 90 days after the application is filed.

Sec. 7. If after hearing upon an application, the commission shall find, from the evidence, that a certificate of public convenience and necessity is warranted, such certificate shall be issued accordingly.

The commisison in issuing a certificate may authorize the operation proposed in whole or in part, and may attach to the exercise of the rights granted thereby such reasonable terms, restrictions, conditions or regulations as in its judgment the public convenience and necessity require.

Sec. 8. Every pipe line agency governed by the provisions of this act shall be required to furnish reasonable, efficient and sufficient service and to establish just and reasonable rates or charges and to make just and reasonable rules and regulations.

Sec. 9. It shall be the duty of the commission, either upon complaint or upon its own initiative, to investigate all rates, charges and exactions, classifications or schedules of rates and rules and regulations, and if after full hearing and investigation the commission shall find that such rates, charges or exactions, classifications or schedules of rates, or rules and regulations, are unjust, unreasonable, unjustly discriminatory or unduly preferential, the commission shall have power to fix and order substituted therefor such rate or rates, charges, exactions, classifications or schedules of rates and such rules and regulations as shall be just and reasonable. If upon any investigation it shall be found that any regulation, measurement, practice, act or service complained of is unjust, unreasonable, unreasonably inefficient, insufficient, unduly preferential, unjustly discriminatory, or otherwise in violation of any of the provisions of this act or of the orders of this commission, or if it be found that any service is inadequate or that any reasonable service cannot be obtained, the commission shall have power to substitute therefor such other regulations, measurements, practices, service or acts, and to make such order respecting any such charges in such regulations, measurements, practices, service or acts as shall be just and reasonable.

Sec. 10. In all matters of procedure, orders and enforcement thereof, hearings, rehearings, and proceedings generally before the commission not provided for by this act, the commission shall be governed by the rules and regulations of the Interstate Commerce Commission set out in the Interstate Commerce Act of February 28, 1930, Chapter 91, Section 441, 41 Stat. 499.

Sec. 11. Nothing in this act shall be construed to in any way abrogate or restrict the jurisdiction of state regulatory bodies, or to take away from state regulatory bodies any supervision or control over gas pipe line agencies that they are now exercising or may have had a right to exercise before the enactment of this law, but this act shall operate only where state regulatory bodies were without jurisdiction.

INSTITUTE ACTS ON GASOLINE TAX EVILS

(Continued from Page 64)

the matter of gasoline tax evasion, the American Petroleum Institute has received the information summarized below.

Evasion may take one of several forms. It may be by failure on the part of a distributor to report all gasoline sold which is subject to tax; fraudulent claims of consumers for exemption or refund; or dealers or consumers smuggling gasoline across state boundary lines, claiming exemption in the state where purchased and failure to pay in the state where used or sold.

It may be pointed out here that a

great many states, allowing exemption or refund because of agricultural or other use of the gasoline, find their percentage of refunds and exemptions mounting so rapidly that many such claims must be presumed to be fraudulent.

Alabama—Evasion of gasoline tax in Alabama is negligible. The three methods used and the steps taken by the tax commission are: (1) Excess losses claimed due to leakage, evaporation, etc., when sufficiently large an audit of receipts and sales discloses the truth or falseness of the claim. (2) A concern buying regularly from a refiner on a tax paid basis, trying to slip in a car or two from an out-of-state refiner on a less tax basis. This is caught by checking the quarterly reports of inshipments required of railroads. (3) Padding of inventory. This is discovered sooner or later by an auditor and merely forestalls the day of payment, although, when accumulated, distributors attempt to claim leakage or evaporation.

Arkansas—Evasions of gasoline tax are few except on the part of small distributors in towns in bordering states. Only a couple of instances of court prosecutions. Department of revenues is reported as being vigilant.

California—Evasion of gasoline tax on the part of smaller distributors through adulteration and false reports is thought to be more or less prevalent by the tax collector. The practice of making fraudulent certificates of exportation has been curbed through auditing and co-operation of adjoining state tax officials. Tax collector believes amending law to require a bond, and monthly instead of quarterly payments, would help.

Colorado—Gasoline tax evasion, except in one instance, has not been serious. In this instance the offender, I. H. Merritt, of Denver, is now serving a 90-day jail sentence for defrauding the state of some $20,000 in gasoline tax fees. Trouble with border inshipments by tank wagon has been minimized by agreements with tax collectors of neighboring states.

Connecticut — Very little intentional evasion of gasoline tax has taken place. Only three serious cases have arisen and in two of these they were considered unintentional. Records of distributors are audited every six months and distributors are required to post a $10,000 bond.

Delaware—Except for companies who dissolved business and failed to remit for gasoline tax for last two months of operation, Delaware is comparatively free from gasoline tax evasion. The law requires registration, monthly reports properly attested, and an annual audit of such registered companies. The state treasurer expresses his pleasure at the methods of reporting used by the registered companies.

District of Columbia—No complaints of gasoline tax evasion. Reports of distributors responsible for tax received monthly, and books in turn audited by district assessor.

Florida — Gasoline tax evasion is believed to be negligible.

Georgia—Gasoline tax evasion is negligible due to the tax law which requires reports of incoming gasoline by transportation companies and posting of a substantial bond by distributors. Careful auditing by the State has helped.

Idaho—Reports one loss of $3,800 due to failure in business of one company that had no assets. Trouble develops over matter of refunds which are allowed for agricultural uses. Consumers use duplicate invoices and change amounts on invoices. Such claims are usually caught when filed. No adequate staff exists or is thought possible to check the actual use to which gasoline is put.

Illinois—Outside city of Chicago, gasoline tax evasion does not appear serious. In Chicago, 30 some indictments have been returned for gasoline tax evasion, but whether convictions will follow is not known. One party estimates gasoline tax evasion in Chicago as having passed the $3,000,000 mark. Evasion in Chicago is reported to be closely allied with the numerous racketeer movements.

Indiana—Former state auditor reports $115,000 collected in settlements where gasoline tax had been evaded. He points out the principal difficulty as being on the Illinois border where a concern operated a bulk station in Illinois and supplied its stations in Indiana by truck, and failing to pay the tax.

An outside informant connected with the oil industry points out that tax evasion in Indiana has been serious and estimates loss in revenue to the State at $1,700,000 annually. He believes the change in administration will help. Blending plants using cheap distillate, kerosene and natural gasoline have been used to evade gasoline tax. Also dummy or paper companies and deliveries from adjoining states.

Iowa—Gasoline tax evasion seems to be at a minimum due to the law which requires a bond from distributors and immediate check-up by field auditors upon any delinquency.

Kansas — Gasoline tax evasion is thought to be negligible. Tax is collected on basis of receipts of tank car lots. Distributor, oil inspector, railroads, and refineries located within the State make reports of gasoline and kerosene tank cars and these reports must agree. Working arrangements with adjoining state tax officials prevents border line tax evasion.

Kentucky—Gasoline tax evasion reported to be negligible in Kentucky. Transportation companies must report all receipts of gasoline, and no refunds or exemption of any kind are allowed. These facts together with careful auditing are believed to be the reason for the State being apparently free from gasoline tax evasion. Two dealers were caught blending kerosene and natural gasoline but were discovered and made pay the tax.

Louisiana—Gasoline tax evasion by small concerns and individuals considered serious by state officials and responsible oil companies. Fly-by-night operators in Louisiana, through co-operation of refiners in neighboring states, ship tank cars of gasoline into Louisiana in some fictitious name, perhaps conceal the transaction further by fictitious transfer to mere paper companies, and then sell to dealers and pocket the tax. City of New Orleans is considered particularly bad. State is working with responsible oil companies in effort to curb tax evasion and punish offenders.

Maine—Gasoline tax evasion thought not to exist at present. This is due to careful auditing of distributors and the records of railroads. In first two years of gasoline tax law, considerable evasion took place but most of this was collected when auditors were put to work.

Maryland—No deliberate attempts to evade gasoline tax payments have been discovered. Trouble has ensued over fraudulent claims for refund. A few prosecutions and the attendant publicity, plus careful auditing, tends to minimize the number of fraudulent claims. Success in collecting all gasoline tax due to the State attributable to (1) auditing of books of companies responsible for tax; (2) investigation of all leads as to possible violations; and (3) co-operation received from larger dealers.

Massachusetts—Gasoline tax evasion is not prevalent in Massachusetts. Law has only been effective two years and experience is limited.

Michigan—Vigilance of tax collector thought to have reduced gasoline tax evasion to minimum. Recently a distributor failed to pay tax and was promptly padlocked.

Minnesota—Evasions are negligible as tax is levied on basis of inshipments, less 3 per cent. All incoming gasoline, kerosene and distillate must be inspected before unloading, thus giving the inspector an opportunity to assess the tax. Close harmony between the collecting officer and the oil companies has aided in securing maximum returns of the tax.

Mississippi—Evasion of gasoline tax is negligible except as to (1) gasoline sold under name of some other fuel in order to escape the excise tax, and (2) exemption to federal employes and instrumentalities. The Mississippi law requires distributor to register and post a bond, and the railroads to report to the state auditor all cars of gasoline received.

Missouri—Tax evasion is negligible, perhaps due to the fact that Missouri has a 2-cent tax, whereas its bordering states all have higher taxes. However, a working arrangement exists with tax collectors of neighboring states whereby border line inshipments are checked. Auditors check receipts by railroads as well as invoices of distributors.

Montana—Evasion of gasoline tax by distributors is negligible, although State Board of Equalization would like the law amended to require distributor to post a bond. The matter of agricultural refunds presents a problem, the refunds now being about 25 cents of the tax collected. Accusations are made that false claims for refund are common and that those having any excuse to apply for refund do so on entire purchases regardless of use to which gasoline is put.

Nebraska—Very little evasion by distributors as tax is paid on inshipments and such are checked by report required of railroads. Several licenses of distributors are reported to have been revoked and then the State is reported to have lost some by distributor ceasing business and leaving no assets. State treasurer is reported to be recommending an amendment to the law to require a $5,000 bond.

Nevada—Gasoline tax evasion thought not to exist.

New Hampshire—No evidence of serious gasoline tax evasion. The Motor Vehicle Department annually checks carload shipments of holders of distributor's licenses against gallonage reported. Discrepancies are occasionally uncovered, attributable mainly to lax bookkeeping methods.

New Jersey—No gasoline tax evasions or attempted evasions are known to exist.

New Mexico—Gasoline tax evasion is negligible. Principally appears in border communities where consumers go across the state line and make their purchases, and among unscrupulous dealers who mix nontaxable petroleum products of inferior grade and thus evade the tax.

New York—Some few cases of tax evasion by unscrupulous distributors principally located on the waterfront have occurred. Careful auditing is used to combat tax evasion.

North Carolina—Very little information. Tax collector indicates a strong suspicion that some gasoline taxes are being evaded but states his field force is inadequate to properly check up.

North Dakota—Gasoline tax evasion by distributors thought to be negligible. Tax collector has power under law to require a bond after one delinquency by distributor. Refunds by farmers is a problem for which no solution has been found.

Ohio—Other than a few attempts to bootleg gasoline into Ohio from border states having a lower tax, the matter of gasoline tax evasion is not serious. The tax commission is aggressive and has sufficient field inspectors to take care of the situation. The tax commission is fortified by a law which requires payment of the tax by the car load buyer, registration and a $5,000 surety bond from each car load buyer, a heavy fine for failure to register, and special provision for a treasurer's warrant in case of delinquency exceeding 10 days, which warrant permits the sheriff to immediately seize and sell any chattels belonging to such delinquent.

Oklahoma—Evasion of gasoline tax through mixing of kerosene with gasoline during the summer time, and selling of "drip" gasoline trucked direct from oil fields to dealers' storage thought to be prevalent.

Oregon—Gasoline tax evasion of any magnitude is thought to be nonexistent in Oregon. Petty evasions in matter of refund arises constantly. Continuous audit of distributors responsible for the tax is made. Co-operation with adjoining state tax collectors is cutting down difficulties over border tank wagon deliveries or purchases.

Pennsylvania—No trouble over gasoline tax evasion is experienced with the reputable oil companies. The law grants no refunds or exemptions. The tax is payable by the dealer. This causes trouble with dealers who receive their supplies from outside the State, as the State has no power to compel such out-of-state sources of supply to make reports. Such dealers pay a certain amount of tax as a cover-up but as their bookkeeping methods are inadequate or nonexistent, auditing of such records by the State does little good.

Rhode Island—Gasoline tax evasion thought not to exist.

South Carolina—Since amendment of gasoline tax law in 1929 requiring dealer to secure a license and post a surety bond, losses on account of evasion have been reduced materially.

Two individuals during the past 18 months have distributed several cars of gasoline without securing a license, the tax being uncollected. The practice was stopped as soon as it reached the attention of the tax commission. No prosecutions were started because the parties involved had no property. The tax commission will ask the next legislature to amend the law to require transportation companies to furnish them with information covering all receipts of gasoline.

South Dakota—Gasoline tax evasion negligible. Refunds to farmers presents a real problem.

Tennessee—Gasoline tax evasion through incorrect tax reports, is thought to exist but amount is negligible. State collects a larger percentage of gasoline tax due than any other tax.

Texas—Tax collector states considerable tax evasion at border points is evident but inadequate field force to properly check. Other information is to the effect that suits in court have been instituted, for collection of delinquent gasoline taxes, by the State against the following companies in the amounts set after their names:

Crescent Oil Co., Houston	$25,500
Preston Bobo, Texarkana	50,000
Central Texas Ref. Co., Corsicana	80,500
Triple M Oil Co., Vidor, Orange County	15,500
H. J. Wickens, Strawn, Palo Pinto County	8,500

It is reported that the latter has a temporary injunction standing against him restraining him from selling gasoline in Texas.

It seems that the oil companies work through the oil men's association in bringing to the attention of the tax collector any suspected evasions. This work is said to have resulted in collection of a great deal of tax money due the State, plus penalties.

Utah—Very little attempted evasion due to co-operation of railroads in reporting all inshipments and co-operation of oil companies and neighboring state tax officials on tank wagon inshipments.

Vermont—Gasoline tax evasion does not exist according to the state auditor. Annual audits are made of books of all licensed distributors. Inspectors report any unusual movement of gasoline trucks into State from border towns.

Virginia—Tax collector indicates number of cases of attempted evasion of gasoline tax have been uncovered and offers to reveal facts if a representative calls.

Washington—Gasoline tax evasion by distributors does not exist. Considerable fraud is believed to exist in the matter of refunds to farmers, motor boat operators and others entitled thereto. As the amount of tax per gallon increases, the tendency to file fraudulent claims increases.

West Virginia—No general evasion of gasoline tax by distributors, as the law, in addition to requiring monthly reports from such distributors, requires railroad companies to file a list of gasoline shipments giving name of shipper, consignee, date, car number, content, etc., and refiners within the State to file a like list of shipments. Discrepancies are occasionally uncovered but not of a serious nature.

Transfer of gasoline by tank truck over the state line without payment of tax constitutes quite a menace. By exchanging information with adjoining states on claims for refund because of shipment out of such states, losses of tax in this manner are being reduced.

Wisconsin—The State of Wisconsin has had very little trouble from the evasion of gasoline taxes, perhaps because its tax is 2 cents whereas surrounding states have 3-cent taxes. Some half dozen prosecutions have been taken against companies padding their inven-

tories. This may be explained as follows: The tax is payable on sales and a company might in its report show less sales and a higher inventory than actual. It is only a matter of time until such a practice is uncovered by an auditor.

The greatest loss to the State comes through the refund provisions of the law. The original invoice is required, but aside from the affidavit of applicant there is no check on whether the applicant used the gasoline for a tax-exempt purpose or not. The only remedy suggested is to do away with refunds entirely.

Wyoming — Gasoline tax evasion thought not to exist.

Arizona—No report has been received on the State of Arizona.

The meeting was attended by the following: E. B. Reeser, Barnsdall Oil Co., Tulsa; R. C. Holmes, The Texas Company, New York; E. G. Seubert, Standard Oil Co. (Indiana), Chicago; W. R. Boyd, executive vice president A. P. I., New York; Amos L. Beaty, treasurer A. P. I., New York; Lacey Walker, secretary and assistant treasurer A.P.I., New York. C. B. Ames, The Texas Co., New York; R. A. Broomfield, Barnsdall Oil Co. of California, Los Angeles; E. J. Bullock, Standard Oil Co. (Indiana), Chicago; Axtell J. Byles, Tide Water Associated Oil Co., New York; W. N. Davis, Phillips Petroleum Co., Bartlesville; Henry L. Doherty, Henry L. Doherty & Co., New York; O. D. Donnell, Ohio Oil Co., Findlay; L. J. Drake, Union Tank Car Co., Chicago; W. S. Fitzpatrick, Prairie Oil & Gas Co., Independence; W. C. Franklin, Tulsa; Wirt Franklin Petroleum Corp., Oklahoma City; H. R. Gallagher, Shell Oil Co., San Francisco; W. T. Holliday, Standard Oil Co. (Ohio), Cleveland; Roy B. Jones, Panhandle Producing & Refining Co., Wichita Falls; C. H. Kountz, Prairie Pipe Line Co., Independence; Edgar J. Marston, Texas Pacific Coal & Oil Co., Fort Worth; C. F. Meyer, Standard Oil Co. of New York; P. M. Miskell, Empire Oil & Refining Co., Tulsa; D. J. Moran, Continental Oil Co., Ponca City; J. Edgar Pew and J. Howard Pew, Sun Oil Co., Philadelphia; Frank Phillips, Phillips Petroleum Co., Bartlesville; Herbert L. Pratt, Standard Oil Co. of New York, New York; Harry F. Sinclair, Sinclair Consolidated Oil Corp., New York; Charles L. Suhr, The Pennzoil Company, Oil City; J. C. Van Eck, Shell Union Oil Corp., New York; F. R. Coates, Cities Service Co., New York; H. A. Meyer, Prairie Oil & Gas Co., Independence; T. H. Barton, Lion Oil Refining Co., El Dorado; D. A. Little, Magnolia Petroleum Co., Dallas; A. W. Peake, Standard Oil Co. (Indiana), Chicago; Fayette B. Dow, Washington; S. B. Hunt, Standard Oil Co. (N. J.), New York; C. L. Jones, Vacuum Oil Co., New York; E. S. Hall and J. A. Moffett, Jr., Standard Oil Co. (N. J.), New York; and H. T. Klein, The Texas Co., New York.

R. P. Anderson, L. M. Fanning, Paul Hadlick, C. A. Young, D. V. Stroop, and Fred Van Covern of the Institute staff, also attended the meeting.

Stanolind's Offer

The following statement was issued by the Standard Oil Co. of Indiana:

"Following the meeting of the American Petroleum Institute in New York the following telegram was sent by Edward G. Seubert, president of Standard Oil Co. of Indiana, to Governor Reed of Kansas: 'As you were advised by Mr. Reeser no definte solution of the problem of final relief for the stripper wells remaining unprovided was arrived at today the matter being referred back to Tulsa committee. Although we still think the committee's proposition to exchange oil is the fair and best solution of the matter, the Standard of Indiana as a relief measure today offered to take 3,000 bbls. per day from these stripper wells, to be purchased for our company at the wells by Prairie Oil & Gas Co. and gathered and transported by the Prairie Pipe Line Co. through its lines to our Wood River, Ill., refinery at full rates to the Prairie companies. Mr. Fitzpatrick declined to do this unless other companies arranged to take the balance of the distress oil. We feel we are doing our fair share having already connected to and running over 12,000 bbls. which have been disconnected by the Prairie in Oklahoma and Kansas. We are extending our lines to all additional production which we can reasonably reach. We will continue to work for the solution of this problem.'

"Mr. Seubert's new offer was with reference to the problem of taking care of the 14,500 bbls. of production from stripper wells that are too distant from purchasing companies' facilities to be reached by them directly and must be marketed through Prairie lines. Other measures already taken have provided outlets for all oil from stripper wells which purchasing companies could reach with own lines."

DELEGATIONS NAMED TO WASHINGTON CONFERENCE

(Continued from Page 61)

fill, T. W. Gregory, all of Houston; E. R. Mayer, Joe Danciger, S. D. McIlroy, all of Amarillo; B. F. Robbins, Big Spring; A. H. Bell of Waco; J. J. Yowell, Rupert Ricker of San Angelo, C. L. Morgan, Claud Wild, W. A. Moncrief, Earnest May, all of Fort Worth; Barney Flynn, E. H. Eddleman, Tom F. Hunter, Walter Campbell, Roy Jones, Orville Bullington, Frank Kell, W. M. McGregor, J. E. Kilgore, C. S. Cullem, all of Wichita Falls; C. S. Richardson of Olney; Nelson Pruett, Lutcher Stark of Orange; Judge Hunter, Tom Grisham, Abilene, Jim Dunnigan, Jake Sandifer of Breckenridge; R. R. Penn and Capt. J. F. Lucey of Dallas; Sam R. Greer of Tyler; C. L. Brashfield of Henderson; W. D. Conway of Ranger; Jim Wheat and Cecil Lockhart of Mexia; O. W. Killam of Laredo; Harry Pennington, Claude Witherspoon, Earl Frath, Guy Blount, F. P. Zoch, Arthur Seeligson, W. M. Morgan, all of San Antonio; W. D. Conway of Ranger; J. E. Spencer of Cisco; E. L. Smith, R. L. Wheelock of Corsicana; J. P. Nash, Ralph Ogden of Austin; Tom Bryant, Cross Plains; B. H. Blakeney, Midland; R. F. Windfohr, Dr. E. R. Riggs, Graham.

Rush M. Blodget, vice president and general counsel for George F. Getty, Inc., of California, who had been in Fort Worth, Tex., conferring with H. M. McComber, vice president and general manager of the Getty Petroleum Corp. of Texas, sent a telegram to Gov. James E. Rolph, Jr., of California asking him either to attend the conference at Washington or to name representatives to attend the meeting. The message in part read as follows: "Governors of Kansas and Oklahoma have called a conference of governors to meet in Washington January 15 to impress on the administration the need of an oil tariff or embargo to protect the oil industry. The oil industry is now in a serious situation and unless protection is given thousands of independent oil men will be driven out of business and many more thousands of men will be thrown out of employment."

Credentials for a commission of 23 men representing the oil industry of California were signed by Governor Rolph. The following comprise the California group:

Los Angeles—Ralph Arnold, Harvey E. Harris, W. J. Kemnitzer, Walter E. Ramsey, S. M. Mosher, Tom Lipps, C. A. Barnhart, P. H. Greer, Richard Florian, Ed Ramsey, Bensel Smythe, Roland R. Willey, R. A. Broomfield, J. B. Elliott, Al Machris, Elmer L. Sisson.

Bakersfield—J. R. Dorsey, W. H. Cooley, Lawrence I. Weill, L. B. Nourse.

Fresno—Hayden F. Jones.

San Francisco—A. C. Mattei.

Long Beach—A. T. Jergens.

Rocky Mountain List

Governor Erickson appointed five delegates to represent Montana: W. M. Fulton of Conrad, L. R. Hanna of Shelby, R. P. Jackson of Great Falls, Lee Thurston of Great Falls and I. M. Brandjord of Helena. Commissioner Brandjord of state lands and investments, will be in Washington to attend the conference on the public domain.

Twenty-five delegates to the oil meeting were named by Governor Adams of Colorado: Horace Havens, state land board; Harry W. Oborn, Morrison Shafroth, Robert Hawley, Warwick Downing, Leslie Parker, S. W. Sinsheimer, Edward D. Foster, state commissioner of immigration; F. J. Kirchhof, W. A. Myers, Sidney Keoughan, John T. Crumbie, Magnolia Petroleum Co.; Fred W. Freeman, John T. Barnett, Mountain Producers Corp.; William H. Ferguson, vice president, Continental Oil Co.; H. C. Bretschneider, George T. Bradley, Stanley Barrows, Charles Switzer, R. H. Heaton, James Brown, Pearl Mosher, F. M. Van Tuyl, F. L. Taylor and E. C. Clark.

Nine Wyoming oil men were appointed by Gov. Frank C. Emerson of Wyoming. Clarence B. Richardson of Casper, vice president of the Consolidated Royalty Oil Co.; Leslie A. Miller of Cheyenne, president of the Chief Oil Co.; B. B. Brooks of Casper, president of the Rocky Mountain Oil and Gas Association; George H. Jaques of Casper, vice president of the Midwest Refining Co.; A. G. Dana of Parco, vice president of the Prairie Oil & Gas Co.; A. J. Hazlett, publisher of the Inland Oil Index at Casper; P. C. Spencer of Cheyenne, general counsel for the Producers & Refiners Corp.; Robert D. Hawley of Douglas, attorney for the Continental Oil Co., and Roy Phoebus of Thermopolis.

Governor Huey P. Long, of Louisiana, named as delegates, W. Scott Heywood, Jennings, La., vice president of the Independent Petroleum Association of America; R. L. Gay, Zwolle; A. H. Tarver, Shreveport, and Marrs McLean, Benton.

The New Mexico delegation includes Bronson Cutting, Sam Bratton, United States senators; Albert G. Simms, congressman; Francis and Edgar Puryear, Washington; J. O. Seth, T. N. Espe, David Chavez, Jr., Juan Sedilio, Santa Fe; J. D. Atwood, M. W. Coll, William Dooley, Harry Leonard, Roswell; C. G. Staley, M. H. Bridges, Ed Landreth, Hobbs; E. H. Wells, Socorro; Van S. Welch, J. J. Clark, Artesia; Charles Dennis, Clovis; Edgar Knight, C. W. Murchison, Albuquerque; Taylor E. Julian, Tucumcari; O. T. Toombs, Clayton; Luis C. Debeca, Mosquero; N. W. Beauchamp, Lovington; R. L. Morton, Farmington; Tom Whalen, Lovington.

PRESIDENT HOLMES ISSUES STATEMENT

(Continued from Page 178)

heavy inventory write offs. Earnings for the companies reporting for the first nine months showed a decline of approximately 35 per cent from the 1929 figures. Most of the Standard Oil companies as well as some of the other important companies do not issue quarterly statements, and it is probable that these companies experienced somewhat more satisfactory profits than the companies which have reported. The result for the industry as a whole, however, will show a heavy shrinkage in earnings for the year. In considering the outlook for earnings in 1931, it should be considered that the companies will start off the year with inventories carried at a low level and that further substantial losses on this account are unlikely, while if the price structure shows any improvement it would be reflected in appreciation in the value of inventories as well as increased profits from current production.

"The strength of the Standard Oil group is indicated by dividend payments for 1930 amounting to $286,666,728, a new high record. Earnings of the group will undoubtedly exceed dividend payments and the ability of these companies to maintain their usual dividends during a depression year is due in large part to the conservative dividend policy which has always been followed. The major companies are well fortified to go through a period of unsettlement in the industry, and are steadily strengthening their trade position so that with any improvement in the situation earnings should be quick to respond, although for the present even these companies cannot show anything like a fair return on their investment and accumulated reserves."

Continental Oil

Carrying out a plan announced in October, the Continental Oil Co. has during the present month called in $7,500,000 of old notes of the Marland Oil Co., which it absorbed about two years ago. Since 1929 Continental has retired $25,000,000 of funded indebtedness, consisting of three issues of $7,500,000 each of Marland Oil Co. notes and $3,000,000 of other indebtedness.

It is reported that the total funded debt of the Continental Oil Co., including $7,500,000 against the Marland Oil Co. and due in 1933, is now approximately $20,000,000. Continental's net current assets are placed at $50,000,000.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

May 28	50.93	Sept. 17	42.43
June 4	50.94	Sept. 24	40.62
June 11	46.65	Oct. 1	37.78
June 18	41.41	Oct. 8	35.85
June 25	42.37	Oct. 15	35.31
July 2	44.13	Oct. 22	31.88
July 9	44.11	Oct. 29	32.80
July 16	46.42	Nov. 5	31.77
July 23	46.06	Nov. 12	30.18
July 30	44.89	Nov. 19	31.54
Aug. 6	45.24	Nov. 26	30.86
Aug. 13	43.53	Dec. 3	30.53
Aug. 20	43.79	Dec. 10	28.57
Aug. 27	42.83	Dec. 17	25.42
Sept. 3	42.71	Dec. 24	25.68
Sept. 10	42.84	Dec. 31	26.15

WARNS EASTERN REFINERS OVERPRODUCTION DANGER

"To secure general improvement in the oil industry, the total stocks of gasoline should not be in excess of 45,000,000 to 50,000,000 bbls. on April 1, 1931," George J. Hanks, buyer for the Bradford Transit company, told district representatives at a recent regional meeting in Pittsburgh of the Pennsylvania Grade Crude Oil Association.

"The total amount of lubricating oil of all grades manufactured in this country during the first nine months of 1929, converted into barrels of 42 gallons each, equalled 26,154,000, while the result for the same period of 1930 has been 26,737,000 bbls. or an increase of two and one-half per cent. Of the above totals in 1929 the amount made from Pennsylvania grade was 3,760,000 bbls. and in 1930 it was 4,866,000 bbls., equaling an increase of 29½ per cent when the total increase was but two and one-half per cent. This shows a very exceptional trend.

"Now those figures refer to manufacture, while we are more concerned as to the disposal of the product. The same firms who have reported the amount of lubricating oil made, also reported the amount they have sold. We keep in mind that their sales do not necessarily reflect sales to consumers, but rather the amount moving out from the point of manufacture.

"During the first nine months of 1929 there was sold by the entire refining industry a total of 26,937,000 bbls. while in 1930 they sold 24,769,000 bbls. or a decline of eight per cent. Of the amount sold in 1929 a total of 3,799,000 bbls. was made from Pennsylvania grade and in 1930 a total of 4,593,000, or an increase of 21 per cent. In other words, the sales of lubricating oil made from your crude have increased 21 per cent, while the sale of lubricating oil made from all other grades of crude have decreased thirteen and one-quarter per cent.

"During the twenty-four weeks since Fayette Dow's office at Washington has released refinery runs, the total average Pennsylvania crude run to stills daily has averaged 61,310 bbls. During the first 12 weeks of this period the average was 56,787 bbls. This shows for the period there has been a gain of 4,523 bbls. daily over the average prevailing during the first half. During the last 12 weeks the daily average has been 66,668 bbls. The figures indicate for the last 12 weeks the refiners have run 5,378 bbls. Pennsylvania grade daily more than for the 24-week average, and that during the last 12 weeks they have run 9,901 bbls. more than for the 12 prior weeks."

McGREGOR MADE FACTORY ENGINEER FOR CHAPMAN

John M. McGregor, sales manager for the Byron Jackson Pump Co. in the Mid-Continent territory, has been engaged as factory engineer for the Chapman Valve

John M. McGregor

Manufacturing Co., and will assume his new position February 1. His headquarters will be with the Taubman Supply Corp., Tulsa, Mid-Continent representative of Chapman, with nine branches.

Mr. McGregor graduated from the Heriot-Watt Technical College and the University of Edinburgh, Scotland, with the degree of B.Sc., following which he was engaged as a consulting engineer in the installation of power plants in France. With the outbreak of the World War he was placed in charge of various munition factories for the British government, superintending the manufacture, filling and assembling of shells. Eventually he was made chief engineer for the Kirkee national factory in Kirkee, India.

For five years following the close of the war, Mr. McGregor was in the service of the Standard Oil Co. of Indiana, handling special lubricating problems.

COMMERCIAL GASSER REPORTED IN IDAHO

WEISER, Idaho, Jan. 10.—An excellent commercial gas well was brought to production in the Weiser oil and gas field by the Mountain States Oil & Gas Co. Monday. The location of the well, known as No. 2 Daniels, is SW SW, Section 32, Range 4w, Township 10n, Washington County, Idaho. The discovery well of the field was drilled in from a depth of 1,900 feet.

John T. Shepard of the Mountain States company says: "It promises to be a very long-lived field due to over 1,800 feet of overlying shales. An intensive drilling program is being started by our company; also several major companies are entering the field. Our company holds over 30,000 acres in Idaho and Oregon. Reliable engineers state there should be more than sufficient gas to supply the entire Northwest, including Portland and Seattle. A major gas company is planning to construct a large line as soon as weather permits. Our company has applied for franchise for Weiser and is also applying for other franchises in Snake River Valley in connection with a major gas company. The company is headed by Willard Scowcroft of Ogden, Utah, as president. He is also vice president and general manager of John Scowcroft Sons Co., wholesalers and manufacturers of Ogden, who have been in business there for over 50 years. He also is interested in many mining companies in Utah and Nevada. Our company is moving in rotary for a deep test and building rig for another gas well. We have named the gas sand the Kramlich sand."

NEW OIL LEGISLATION IN COLOMBIA MAY ENCOURAGE NEW DEVELOPMENT

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Jan. 12.—An early resumption of petroleum development work in Colombia is looked for in the event that the Congress of that country takes favorable action on new petroleum legislation which has just been introduced. With the approval of the special subcommittee of the Colombian Senate, a repealer of the present Colombian law covering the operations of foreign oil companies in that country has been introduced, and will be acted upon late next month.

While details of the proposed new legislation are not available here as yet, it is reported by companies interested in Colombia that the new laws, if enacted, will greatly liberalize existing regulations and will give American interests in Colombia sufficient latitude to justify a general resumption of operations. The new measure, it is reported, has been approved by the special oil committee of the Colombian Senate and has also met with the approval of counsel for the large oil companies with interests in Columbia.

Principal American companies controlling properties in Colombia are the Standard Oil Co. (N. J.), through Imperial Oil, International Petroleum, and Andian National Corp., and Gulf Corp., through its subsidiary, South American Gulf Oil Co. Royal Dutch-Shell also has extensive holdings in Colombia.

Subsidiaries of the New Jersey company have been the principal producers in Colombia during the past few years, other companies largely suspending operations and maintaining but skeleton staffs pending a favorable revision of the petroleum laws of that country. Excessive royalty provisions and other restrictions imposed by the present petroleum laws in Colombia had made conditions so unfavorable that none of the major companies, with the exception of the Jersey subsidiaries, was in position to exploit its holdings.

Suspend Operations

Gulf Oil Corp. early in 1930 announced that it has discontinued the Colombian operations of South American Gulf Oil Co., due to the unfavorable attitude of the Colombian Government toward the activities of foreign oil companies. Gulf was the last large foreign company, with the exception of the Jersey Canadian subsidiaries, to suspend its Colombian operations, the general cessation of operations being in protest of the drastic provisions of the Colombian oil laws. One of the most important provisions of the Colombian law to which American companies object was that imposing a 16 per cent production tax, in addition to the usual royalties.

Efforts on the part of the principal corporations whose production was halted by the drastic oil law to bring about a change in the regulations were unavailing until the election of President Enrique Olaya Herrera, former Colombian Minister to the United States. President Herrera visited the United States last September and is reported to have discussed the oil situation in his country with American oil men. At that time, Colombian government bonds had felt the effects of the general depression in South America, and the Colombian Government was forced to consider means for strengthening the national revenue.

President Herrera, it is reported, is strongly in favor of the repeal of existing oil laws and the passage of the measure now before the Colombian Congress. The new measure reduces the royalty to below the old operating basis, and at the same time eliminates other features of the present law which make oil production for export unprofitable.

Since the approval of the proposed new measure by the Senate sub-committee, it is reported that operating and holding companies engaged in oil development in Colombia have been active in preparing for a resumption of operations.

Gulf Oil Corp., through its South American subsidiary, holds a contract for the exploitation of tracts aggregating more than 700,000 acres in the Lebrija Valley district, owned by Colombian Syndicate. Under the provisions of this contract, Gulf will develop the properties, the Colombian Syndicate receiving 10 per cent of cash profit from the sale of oil produced on this property and 6 per cent of the oil. Gulf will pay all government royalties, taxes, drilling costs, and operating expenses.

The prospect for a resumption of activity in Colombia has renewed interest in the outcome of judicial action concerning the famous Barco Concession. This concession, one of the most bitterly-contested grants in the history of the South American oil industry, was granted to Gen. Virgilio Barco in 1905 in recognition of his services in putting down a rebellion. After he had been unsuccessful in his efforts to develop the properties, he disposed of them in 1918 to a syndicate headed by Henry L. Doherty, who in turn sold them to a syndicate composed of Gulf Oil Corp. and the Carib Syndicate, the former holding a 75 per cent interest in the properties.

Early in 1926 the Colombian Government cancelled this concession, which covers some of the richest oil lands in Colombia, and later confirmed the cancellation following an appeal by the American companies in August, 1928. The Barco case is now before the Supreme Court in Colombia but final decision in this case is not looked for in the near future.

JOHN T. WILKIN DIES IN CONNERSVILLE, IND.

John T. Wilkin, age 67, president of the Connersville Blower Co., died at his home in Connersville, Ind., recently. Mr. Wilkin's death was due to paralysis of the heart from which he had been suffering for several weeks.

He was born July 29, 1863, at Danville, Ind., the son of William and Susan Wilkin. He received his early education in the Danville and Plainfield schools and was graduated from the Rose Polytechnic Institute at Terra Haute in 1886 going to Connersville the same year, where he was employed as a draftsman by the P. H. & F. M. Roots Co. He married Hortense Riley of Connersville in 1889.

A few years later Mr. Wilkin was instrumental in organizing the Connersville Blower Co., being associated with the late R. T. Huston, J. E. Huston, John B. McFarlan, Sr., and Michael Ganley. He was first chief engineer of the Blower company, later vice president and upon the death of the late E. W. Ansted, became president, which position he occupied for more than 10 years.

During his career with the Blower company he was credited with a number of important inventions and perfections relating to his business and just recently completed a new gearing arrangement which is considered one of his most important inventions.

As a recognition of his genius Mr. Wilkin was honored sometime ago by the American Society of Mechanical Engineers of which he was an active member by being appointed as a member of the publication committee of that organization. This is a committee composed of only three men who pass on all new matters of mechanical engineering before the details are released and is one of the most important positions anyone in this line of work can be given.

Mr. Wilkin was also a member of the Franklin Institute, an organization which awards medals each year for contributions to the world of science such as inventions, etc., and was also the holder of several awards. He was a charter member of the Old Colony Club and of the Columbia Club in Indianapolis.

He was a trustee of Western College for Women at Oxford, Ohio, and of the First Methodist Epistopal Church of Connersville. He was also affiliated with the Rotary Club and Warren Lodge No. 15 F. & A. M.

CO_2 RECORDERS ADD TO FUEL EFFICIENCY

(Continued from Page 171)

ural gas fuel. However, under normal operating conditions the excess air is kept under the limit, due in a large measure to the incentive to good firing and to modern maintenance methods set up by the CO_2 recorders.

Mention will be made of but one of the several ways in which these instruments are helpful to the boiler operator. As a rule the steam pressure goes with the CO_2, and the fireman gets his first intimation that there is something wrong with the "fires" from a drop in the CO_2 percentage. He may then inspect the furnace for indications of incomplete combustion, also the gas pressure, pyrometers, thermometers, draft, gauges, dampers and the like and may, quite often, restore things to normal before the steam pressure, the usual criterion of disturbed conditions, has been materially affected.

To conclude, the CO_2 recorders add a new feature to the boiler house daily report. As the plant executives now not only know how much fuel was consumed during each shift, its calorific value, etc., but they are also aware of the quantity of fuel reported as burned that went to waste.

Equations 1 and 3 are from Combustion, American Gas Association.

Equations 2 and 4 are from Power Plant Engineering, July 1, 1930.

RUSSIAN COMPETITION ALARMING OIL BOARD

WASHINGTON, D. C., Jan. 12.—The effect of Russian petroleum shipments upon the American producer is being given consideration by the Federal Oil Conservation Board. An investigation was launched following the discharge of approximately 45,000 bbls. of Russian oil at Baltimore to determine what effect the shipment had upon the market.

Just now, Chairman Wilbur said, the attitude of the board is one of watchful waiting, to see whether the single shipment will be followed by others. Russia, he said, easily could become a large factor in the world market, because of her vast oil reserves and through her system of government labor. The immediate effect upon the American market he considered negligible, because of the long haul from Russia.

The next two years, the Secretary believed, would present the answer to whether the Soviet petroleum production plans would develop into a world-wide program.

Records of the conservation board support the belief expressed recently by various operators that Russia is on the way to becoming a great international competitor.

Russia's production is expected to go above 150,000,000 bbls. in 1931.

SOUTHERN FUEL OFFICERS

LOS ANGELES, Jan. 10.—A. B. MacBeth, president of Southern California Gas Co., a Pacific Lighting subsidiary, has announced the formation by his company and Southern California Edison, Ltd., of the Southern Fuel Co. for the purpose of constructing a pipe line to transport natural gas from the San Joaquin Valley fields to Los Angeles.

The officers and directors of the company have been chosen from the officers of the operating companies of the controlling interests and are as follows: Alexander B. Macbeth, president and general manager; F. B. Lewis, vice president and assistant general manager; George C. Ward, vice president; Franklin S. Wade, vice president; D. M. Trott, secretary and treasurer; directors: R. H. Ballard, Addison B. Day, LeRoy M. Edwards, F. B. Lewis, Alexander B. Macbeth, W. C. Mullendore, Franklin S. Wade and G. C. Ward. The construction work will probably not commence until April.

G-R Bentube Sections

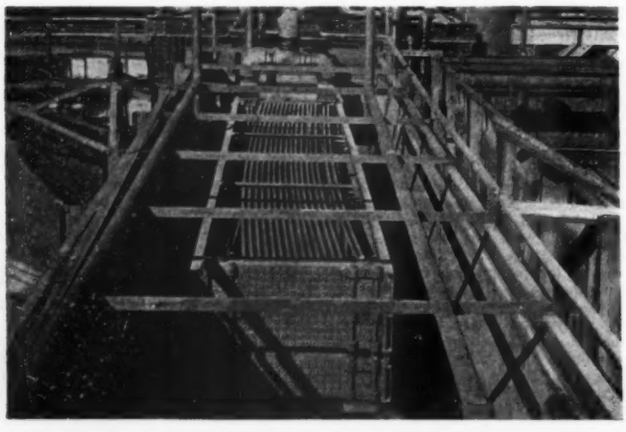
ARE widely used for all types of cooling and condensing service. Their automatic scale-shedding feature, high salvage value, flexible capacity, interchangeability, and long life are some of the many advantages that have made them popular in natural gasoline plants and refineries.

Over 3,500,000 gallons per day capacity now operating.

The G-R Bentube Section is patented and it is our intention to prosecute all infringements. Suits, charging infringement of our patent No. 1,617,083, have been brought in the U. S. District Courts at Wilmington, Delaware, and New York, N. Y.

The Griscom-Russell Co., 285 Madison Ave., New York

Branches in all oil centers.



BUYERS REPEAT OFFERS TO TRADE WITH PRAIRIE

(Continued from Page 72)

by the various operators and purchasers now declined somewhat. A careful study of the statement to be secured from Mr. Collins will definitely establish the figure.

"Third—The proposition made by this committee under date of December 31, 1930, still holds good. Briefly, the proposition made was for the various companies to purchase from leases of the Prairie Oil & Gas Co. or its nominee an amount of crude oil up to 14,500 bbls. per day provided the Prairie Oil & Gas Co. will buy a like amount from those operators where the Prairie Pipe Line only is connected and where no market now exists. The committee wishes to point out that the acceptance of this proposal by the Prairie Oil & Gas Co. would result in the Prairie Oil & Gas Co. having to run and purchase no more oil than the amount which they are now running and is the most effective means by which the greatest number of distress properties can be given both immediate and permanent relief without undue burden to anyone.

"While this matter is being worked out your committee urges that all operators who find themselves without a market should exhaust all means at their command in taking care of their individual situations as every barrel taken care of by the efforts of individual producers simplifies the problem for your committee."

Late Fields

(Continued from Page 72)

Bullock, NW cor. SE NE Section 22-6-3, in the Wanette Pool, in Pottawatomie County, flowed 1,443 bbls. in 16 hours from the Wanette sand at 3,562-95 feet. The well is located on the discovery lease in the area.

Droppleman and others' No. 1 Fundis, SE cor. NE Section 19-7-3, Pottawatomie County semiwildcat, found water in the Wilcox sand at a total depth of 5,412 feet and will probably be abandoned.

It was announced on Tuesday that the Sunray Oil Co. had sold to the Continental Oil Co. 500,000 bbls. of Oklahoma City crude oil at the posted market price to be delivered to the Continental Oil Co.'s refinery through the latter company's pipe line in conformity with proration orders governing the field. The Continental Oil Co. also bought an option on an additional 500,000 bbls. from the Sunray company.

KANSAS

Syndicate Oil & Gas Co., Milmac Oil Co. and others' No. 1 Tammen, C SW. Section 11-18-16w, Rush County, Kansas, is believed to be one of the largest gas wells yet completed in the State. Its open flow gauge was 42,000,000 feet a day from sand at 3,499-3,509 feet. The well is the second gas well completed in the area and is a half mile south of the same companies' No. 1 Eital, C NW, Section 11-18-16w, which was completed for 26,000,000 feet of gas several months ago. The gas from the area is being taken by the McPherson Oil & Gas Co. and will also be taken by the Missouri Valley Gas Co. when its pipe line is completed from the Texas Panhandle and Southwest Kansas, to Council Bluffs, which passes near the area.

Skelly Oil Co.'s No. 1 Miles, NE cor., Section 30-27-10w, Kingman County wildcat, found a showing of oil at 3,385-93 feet, and landed 8-inch casing at 3,385 feet. The casing did not shut off the gas and the well was recemented. The cement plugs were being drilled out and the water was being swabbed from the hole on the last reports. The well swabbed 145 bbls. of oil on the last swabbing test.

Lario Oil & Gas Co. and Shell Petroleum Corp.'s No. 1, in the NE cor., Section 36-19-2w, in the Decker gas area in McPherson County, found 3,500,000 feet of gas at 2,938-60 feet in the chat.

Shell Petroleum Corp. and others' No. 1, SW cor. NE, Section 1-20-2w, in the Ritz area in McPherson County, found the chat at 2,949-51 feet, with nothing showing. The 6-inch casing is being landed at 2,951 feet and it will be drilled deeper.

In the northwestern part of Harvey County, Phillips Petroleum Co. and others' No. 1, in the NW cor. NE, Section 31-22-3w, found 750,000 feet of gas in chat at 3,228 feet and at 3,251 feet water.

Alco Royalty Co. and others' No. 1, in the NE cor. SE SE, Section 5-22-3w, Harvey, found a showing of gas in chat at 3,185-90 feet. The 6-inch casing was being landed at 3,187 feet.

ROCKY MOUNTAIN AREA OIL MEN WIRE HOOVER

GREAT FALLS, Mont., Jan. 10.—The directors of the Rocky Mountain Oil and Gas Association have challenged the statement by Secretary Wilbur relative to a tariff duty on crude oil, telegraphing President Hoover as follows:

"Referring to statement issued by Secretary Wilbur making declaration against tariff on oil very respectfully desire to express the views of this association that such an utterance was not only unjust and an incorrect portrayal of facts but likewise a blot on the Republican administration and the platform of tariff equity and justice advocated by you prior to your election. Authoritative and virtually indisputable surveys point to a supply of crude oil in the United States sufficient for at least the next 200 years. Furthermore the Montana oil fields and refineries are handicapped and restricted by the burden of importations to the extent that they are producing and operating at less than one-third capacity resulting in a grave unemployment situation reflected in loss of revenue to this State and its people. We most respectfully ask that you give this matter your personal attention to the end that Secretary Wilbur be censured for this declaration which is at least wholly misleading and not a true portrayal of existing facts and conditions.

"Rocky Mountain Oil and Gas Association, Walter F. Brittan, secretary."

SITUATION IN CANADA AS SEEN BY GEOLOGIST

CHATHAM, Ontario, Jan. 10.—In a recent comment on his investigations of Canadian oil conditions, Campbell Hunter, the British geologist, calls attention to the fact that Canada's production of crude oil is only a little more than one-thirtieth of her requirements. Reviewing recent developments, he says:

"The center of gravity of the Canadian oil and gas producing industry is now firmly established in the province of Alberta. During the past 12 months the production of oil, including naphtha, has increased from 978,046 bbls. in 1929 to an estimated 1,250,000 bbls. for 1930, while prices have remained steady, if anything, higher than a year ago.

"While, in brief, the past year's achievements have been eminently satisfactory, it must in truthfulness be admitted that new discoveries have been lacking. Thus, Turner Valley is almost responsible for the entire output. Wainwright still lacks the applied combination of adequate finance and up to date drilling technique. The Meridian-Ribstone Field records the completion of only three new wells, all good commercial producers, unaccompanied by any dry holes. In the south, careful work has enabled the oil fields of northern Montana to be traced across the border into Canada, where the Red Coulee Field holds out distinct prospects, though, so far, the wells have not been of any outstanding order.

"While no new fields were brought into commercial production during the past year, an interesting advance publication of the Geological Survey of Canada indicates that what is known as the Jumping Pound anticline affords distinct prospects."

The only diamond-like substance that interlaces with steel...

BLACKOR is not only one of the hardest materials known, but, unlike ordinary hard facing and inserts, its high melting point permits bonding into the steel to which it is applied. This intimate interlacing, in which BLACKOR actually becomes a part of the steel prevents chipping or breaking off. This allows your bits to stay in the hole longer, cutting away, without danger from rapid abrasion. The illustration above, a micro-photograph of two layers of BLACKOR shows the BLACKOR and steel in intimate combination with the BLACKOR as an actual part of the steel.

Because BLACKOR can only be applied with the carbon electric arc and requires only one ounce to cover from 3 to 4 square inches, one layer, greatest economy is assured by its use. Electric arc welding is 10 times cheaper than acetylene welding and this saving is greatly increased in isolated fields.

BLACKOR is granular in form. Costs less to apply, requires less time and leaves no soft exposures. Carbon arc-applied and no insert material needed. All the cutting surface is faced and no expensive oxy-acetylene required.

BLACKOR presents a solid wall of abrasion resistance ....leaving no unprotected spots open to abrasive attack. This, combined with its next-to-diamond hardness, makes the changing of tools much less frequent, reduces labor costs and helps get more hole....quicker.

Lowest in cost, greatest in efficiency and highest in quality, BLACKOR is the proved abrasion resistant. Try it on your tools and note the difference!

BLACKOR COMPANY

Head Office: 13,007 So. Main St., Los Angeles, California
Tulsa, Oklahoma Office: 219 So. Jamestown Ave.
Houston, Texas Office: 1506 La Mar Street

BLACKOR

The Super Abrasion-Resistant Facing

AMERICAN
AURORA, ILL.

The American Well Works manufactures a complete line of oil well pumping units. They are made in a wide variety of sizes permitting a length of stroke of from twelve to fifty inches. All gears are enclosed and run in a bath of oil. Used throughout the oil fields of the world. Catalogs and engineering data upon request.

C. S. CARTER, *Sales Representative*
711 Mid-Continent Bldg., Tulsa, Oklahoma
WM. PIERCE, *Sales Representative*
701 Elm St., Dallas, Texas

THE AMERICAN WELL WORKS
General Offices AURORA, ILLINOIS and Factory

Athey
Truss Wheel
Oil Field Wagons

Ideal for heavy duty behind tractors, either singly or in train. . . . Made in 10, 15 and 20-ton capacities for hauling heavy loads where transportation over soft ground is a problem. . . . . Write for complete information.

ATHEY TRUSS WHEEL CO.
130 North Wells Street .. Chicago, U. S. A.
Cable Address: "Trusswheel, Chicago"
Foreign Representatives . . . Baldwin Locomotive Works, Philadelphia, Pa.

FENWICK-REDDAWAY MFG CO.
NEWARK NEW JERSEY
IWANA
HAIR BELT

Will outwear and stand more hard use and abuse than any other make of BELTING.

Manufactured by
Fenwick-Reddaway Mfg. Co.
Newark, N. J.
Stocks Carried at
NICHOLS TRANSFER & STORAGE CO.
1 North Boulder Tulsa, Okla.
Phone 2-1117

Ventilators
Southern Cornice Works
Oil Field Work a Specialty
Phone 2-1546
118-120 So. Cincinnati
TULSA, OKLA.

BE SURE OF A SURE SHOT
CALL OUR NEAREST SHOOTER
FUNDAMENTAL RESEARCH
is making us of
INESTIMABLE VALUE
to the producer
SURESHOT TORPEDO
(Incorporated)
Main Office, Huntington, W. Va.

Read Classified Want Ads Each Week

HANDLING OF AVIATION FUELS REQUIRES CARE

(Continued from Page 149)

not adjacent to the tank filling opening. Make the connection before the nozzle is inserted into the tank and do not break it till after the nozzle has been removed and the gasoline tank cap replaced.

Receiving and Storing

(a) Pits and trucks:

1. Storage tanks and tank trucks delivering gasoline should be checked every time delivery is made to storage (oftener if deliveries are infrequent) to insure absence of water in the gasoline.

2. Protect fill pipes to underground storage tanks by heavy guards in such a way as to prevent trucks backing against them when making dump or provide flush type, water tight fill covers.

3. Be sure bonding clips are attached before fuel transfer starts.

4. Stop truck engine during unloading.

5. See that all fill caps are properly replaced and locked to prevent entrance of water or dirt into tank.

(b) Drums:

1. Handle drums gently. Never drop them even on soft ground as the strain may loosen scale or galvanizing.

Slide drums down skids end first when unloading; do not roll them down. Do not bump drums together with any force.

2. Full drums should be stored plug up, preferably under cover. If necessary to store in the open, always stand drums on end, blocking up one side so as to allow only a minimum of water to stand on the drum head. In thus tilting the drums be sure the low spot on the head is away from both plugs. Otherwise water may seep in through leaky threads.

3. To empty drums into an underground tank use a platform and skid, the platform to be high enough to be above the funnel in the fill pipe. Spot the drum on the platform over funnel and connect bonding clips. Remove small vent plug and discharge gasoline into funnel. Be sure the funnel is large enough to prevent spillage.

(c) Cases:

1. Gasoline in cases must be stored inside.

Fueling Airplanes

(a) General precautions:

1. Always fill airplane fuel tanks before putting plane in hangar. Partially filled tanks allow vaporization with danger of explosion.

2. Never fuel a plane inside a building.

3. Before fueling be sure that bonding is complete.

4. During fueling operations an Underwriters approved fire extinguisher should always be within reach of the fueler.

5. Filter the gasoline when putting it into airplane tanks. For this purpose a very fine mesh metal screen is preferable. Chamois may cause static. Regardless of the filter medium, be sure it is free from holes or corrosion.

6. Do not pour gasoline directly on the filter but against the side of the funnel as pressure will force water through screen or chamois.

7. Watch the gasoline on the filter. If sediment or water is observed, stop filling and locate the source.

8. During filling operation have someone watch the gauge in the cockpit to prevent overflow.

9. Take meter readings before and after each filling and check with cockpit gauge.

(b) From underground tank with pits by hose:

1. Take constant precaution against water getting into gasoline delivered to airplanes. This means daily checking of underground tanks to be sure they are in good order. The presence of water can be determined by testing with water testing paper or paint soluble in water.

2. Keep pits clean. Do not allow water or gasoline to collect in pits.

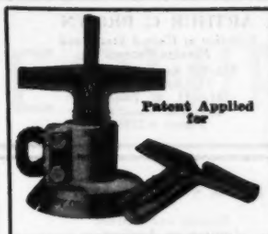
3. Take good care of the fueling hose. Take it from the pit carefully. Carry the hose to the airplane; do not drag it. Prevent kinks and short loops in the hose. Never let the nozzle touch the

PIPE STILLS
KELLOGG
The M. W. Kellogg Co., 225 Broadway, New York; Tulsa, Okla., Philtower Bldg.; Los Angeles, Cal., 1031 So. Broadway

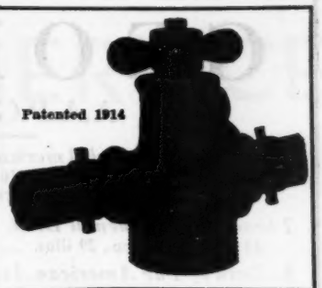
PIPE BENDS
WELDED HEADERS
CAST STEEL FITTINGS
COMPLETE PIPING
LIMBERT PIPING
We manufacture ordinary requirements or design and manufacture special piping for any refinery condition. A third of a century of piping leadership.
GEO. B. LIMBERT CO.
570 Fulton Street, Chicago, Ill.
Works: East Chicago, Ind.
St. Louis, Mo. Kansas City, Mo.
Detroit, Mich.

Goodman Cylindrical Stopper for
GAS, OIL, WATER, DRAIN PIPES
C B
Safety Gas Main Stopper Co.
523 Atlantic Ave.,
Brooklyn, N. Y.

IMPERIAL ROYALTIES COMPANY
(Established April, 1920)
Executive Office
Federal Reserve Bank Bldg.,
Kansas City, Mo.
Operating Office
Hunt Building, Tulsa, Oklahoma
Owns Royalty Interests in some 2,000 Properties, covering over 600,000 Acres, with more than 3,350 Wells.
Imperial Royalties Company has paid to Shareholders 123 Cash Dividends, totaling 205%.
Company's Properties are located in the Mid-Continent Field—Oklahoma, Kansas, Louisiana, Texas, Arkansas and New Mexico.


Patent Applied for

LARKIN'S IMPROVED SAND PUMP


Patented 1914

"Products You Can Trust"

Carefully and constantly improved—years of experience. That is why Larkin Products are *products you can trust.*

That is why Larkin Products will serve you for years.

In keeping with the reputation of Larkin Products, is Larkin service. Large stocks are carried which are always available for prompt shipment. The Larkin stock rooms contain all types of packers known to the trade. Packers will be built to suit your particular requirements. A complete line of Drilling and Fishing Tools are for sale or for rent.

Common Style Larkin-Rigby Oil Saver Showing Hollow Top Grease Cup

Combination Anchor and Wall Packer—Conical Sleeve.

Hook Wall Packers (Patented)

Drilling Bit and Jars

Larkin 3-in-1 Gas Anchor Packer

California Style Larkin-Rigby Oil Saver

LARKIN & CO.

BUTLER, PENNSYLVANIA, U.S.A.

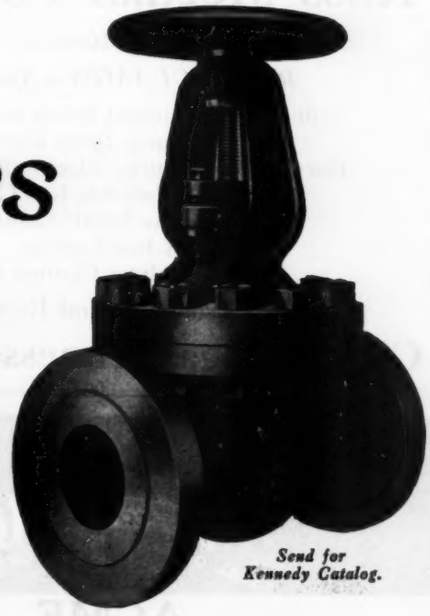
Valves for pipe lines

MADE in a variety of patterns to suit varying conditions and service found in high-pressure hydraulic, natural gas, and oil piping.

Kennedy Products for the oil industry also include 400-lb., 700-lb., 1000-lb. and 1600-lb. test gate valves, a wide range of valves for lower pressures, and complete lines of standard cast iron flanged fittings and malleable iron and brass screwed fittings.

THE KENNEDY VALVE MFG. CO., Elmira, N. Y.

Branches in principal cities.


Send for Kennedy Catalog.

KENNEDY

VALVES-PIPE FITTINGS-FIRE HYDRANTS

GEOLOGY

A.A.P.G. Publications

Structure of Typical American Oil Fields. Authoritative.
Vol. I. 13 states; 39 authors; 510 pp., 190 illus. ---------- $5.00
Vol. II. 13 states; 45 authors; 780 pp., 235 illus. ---------- 6.00

Theory of Continental Drift. Large earth masses.
14 authors; 240 pp., 29 illus. ---------- 3.50

Bulletin of The American Association of Petroleum Geologists.
100 pp. monthly. Illus. Annual subscription (foreign, $15.40) ---------- 15.00

Index to the Bulletin.
Detailed index for ten volumes (1917-1926) ... 2.00

Write for descriptive price list. 20% discount to libraries.

THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS
Box 1852, Tulsa, Oklahoma, U. S. A.

DART UNIONS AND FLANGES

Two Bronze Seats

May we send you sample to try on your most troublesome line? It is absolutely free. Write today for catalogue "O."

E. M. DART MFG. CO., Providence, R. I.

The Fairbanks Co., Distributors

Ross-Meehan Foundries

Manufacturers—

RIVER CLAMPS a Specialty

Williamson Multispeed Winch for Oil Fields
Williamson Drum Units
Electric Steel Castings, Electrically Annealed
"Certified" Malleable Iron Castings
"Meehanite Metal" Castings
Gray Iron Castings
Special Analyses Castings for—
Oil Producers and Refiners

Chattanooga, Tennessee, U.S.A.

ACME DRILLING & FISHING TOOLS
SEAL OF QUALITY

ACME

POINTS TO EXPERIENCE—
EXPERIENCE POINTS TO
ACME

DRILLING AND FISHING TOOLS

Acme Fishing Tool Co., Parkersburg, W. Va.
Export Office: 136 Liberty St., New York
Stores in the principal fields.

ground. Use the minimum length of hose practical under prevailing conditions.

4. If the gasoline system has sediment traps, see that they are flushed frequently.

5. Before fueling an airplane be sure bonding is complete.

(c) From trucks by hose:

1. On established airports it is recommended that gasoline be stored in and dispensed from underground tanks with pits. Trucks should not be considered as a permanent method of airplane fueling but should be limited strictly to temporary or emergency use.

2. When fueling from trucks watch the operation of the truck's motor carefully with a view to preventing backfire. Use low speed in approaching and leaving the airplane. Do not race the engine.

3. Each fueling truck should be equipped with a fine mesh screen cap to be placed over the end of the exhaust during fueling. Preferably this cap should be attached to the end of the exhaust pipe in such a manner that it can be slipped over the end of the pipe before fueling and removed after the truck has pulled away from the airplane. The screen should not be permanently fixed over the end of the exhaust pipe as dirt and carbon may close the mesh.

4. Before fueling be sure bonding is complete. See that the truck is equipped with a drag chain and that the chain is down so as to insure positive metallic contact with the ground.

5. Use extra caution in fueling to avoid spillage.

6. Every fueling truck should be equipped with Underwriter approved fire extinguishers.

(d) From drums with hand pump (an emergency method only):

1. Hand pumps for pumping gasoline from drums should have a sufficient number of brass parts to prevent steel-on-steel blows against the drum which might cause a spark. A bronze rather than cast iron bushing to hold the pump in place is recommended.

2. In using wrenches to remove plugs, insert pump, etc., extreme care must be exercised to prevent a slip which might result in a spark-producing blow.

3. Be sure bonding is complete and be careful not to spill gasoline.

(e) By bucket (an emergency method only):

1. In the case of forced landings and similar emergency situations where it becomes necessary to fuel an airplane by bucket, extra care and ingenuity must be exercised in order to avoid further trouble.

2. Be sure the bucket used is clean and free of water.

3. If possible, use a bucket with spout and lid so that the top can be closed during fueling.

4. Use as large a funnel as is available.

5. Be sure to establish bonding either by rigging an emergency wire connection or by making metal-to-metal contact between the bucket, the funnel and the airplane tank opening.

6. Be sure to filter the gasoline as it goes into the airplane. Use a fine mesh metal screen if available; if not, a chamois.

7. Be especially careful not to spill gasoline.

L. F. RAINS NOW PRESIDENT

The A. M. Byers Co. announces that L. F. Rains, vice president of Columbia Steel Corp. of California, a subsidiary of U. S. Steel Corp., has been elected president of A. M. Byers Co. to succeed the late A. H. Beale who died October 9. In making the announcement, the company states that Mr. Rains who has had a very successful career, is believed exceptionally well qualified to carry on the high standard and reputation of A. M. Byers Co., which has been built up and maintained over a period of nearly 70 years.

ARTHUR C. BROWN
Solicitor of United States and Foreign Patents
914-915 Kennedy Bldg.,
TULSA, OKLA.
Mr. H. A. Twente
Resident Assistant
Phone 4-2319

TEXAS OIL MAPS
County and District
Catalog on Application
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

W. G. von GEMMINGEN
Consulting Engineer
Natural Gas
Reports, Investigations, Consultation
74 Trinity Place
New York City
Telephone:
Whitehall 3557

PATENTS *Write for Free Book*
MUNN & CO.
Associated since 1846 with the Scientific American
514 Scientific American Bldg., *Washington, D. C.*
1551 Scientific American Building,
24 West 40th Street, *New York City*
1303 Tower Building, *Chicago, Ill.*
656 Hobart Building, *San Francisco, Calif.*
511 Van Nuys Bldg., *Los Angeles, Calif.*

MANY VALUABLE SPECIAL ISSUES ARE SOON TO BE PUBLISHED

—o—

SEND IN YOUR ORDER TODAY

—o—

The Oil and Gas Journal
TULSA, OKLA.

EQUIPMENT BUYERS SERVICE

PART 1

"WHO SELLS IT"

REFER TO PART 2, PAGE 226, FOR MANUFACTURERS ADDRESS AND SALES OUTLETS

A

Absorbers—
Alco Products, Inc.
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
Frick-Reid Supply Corp.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
International Supply Co.
Jackson Engineering Corp.
McClintic-Marshall Co.
Meriam Co.
National Tank Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Sun Shipbuilding & Drydock Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Western Gas Construction Co.
Wyatt Metal & Boiler Works

Absorbers—Shock, Pull Rods—
Hercules Supply Co.
International Supply Co.
Meriam Co.
National Supply Co.

Absorption Plants—
Alco Products, Inc.
American Tank & Equipment Corp.
C. F. Braun & Co.
J. A. Campbell Co.
Columbian Steel Tank
Foster Wheeler Corp.
Jackson Engineering Corp.
M. W. Kellogg Co.
National Supply Co.
Petroleum Engineering, Inc.
A. O. Smith Corp.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co
Whealton & Townsend, Inc., Ltd.
Winkler-Koch Engineering Co.

Accumulators—
Alco Products, Inc.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
Hedges-Walsh-Weidner Co.
Jackson Engineering Corp.
McClintic-Marshall Co.
National Tank Co.
Southwestern Engineering Corp
Sun Shipbuilding & Drydock Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Accumulators—Hydraulic—
Bethlehem Steel Co.
Fulton Iron Works
McClintic-Marshall Co.
Watson-Stillman Co.
Wilson-Snyder Mfg. Corp.

Acetylene—
Hercules Supply Co.
Linde Air Products Co.

Acid Recovery Systems—
Hills-McCanna Co.
Kaw Steel Construction Co.
Arthur G. McKee & Co.
National Lead Co.
A. O. Smith Corp.
Edward Soph

Adapters—Casinghead—
Frick-Reid Supply Corp.
Hercules Supply Co.
Hercules Tool Co.
International Supply Co.
J. H. McEvoy & Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Regan Forge & Engineering Co.
Shaffer Tool Works
Stoody Co.

Adapters—Rotary Hose—
Bridgeport Machine Co.
Continental Supply Co.
Elliott Manufacturing Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Linde Air Products Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Adhesives—Foiling—
Technical Products, Inc.

Adjusters—Grip—
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Aerial Photography—
Engineers Aerial Surveys

Aerial Surveys—
Engineers Aerial Surveys

After Coolers—
Alco Products, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
Foster Wheeler Corp.
Griscom-Russell Co.
Hedges-Walsh-Weidner Co.
Ingersoll-Rand Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.
National Supply Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Sun Shipbuilding & Drydock Co.
Western Gas Construction Co.
Worthington Pump & Machinery Corp.
Wyatt Metal & Boiler Works

Agitator—Drive—
Sowers Manufacturing Co.

Agitators—
Alco Products, Inc.
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Columbian Steel Tank
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
National Tank Co.
Arthur G. McKee & Co.
National Tube Co.
Pittsburgh-Des Moines Steel Co.
Sowers Manufacturing Co.
Sun Shipbuilding & Drydock Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Whealton & Townsend, Inc., Ltd.
Wyatt Metal & Boiler Works

Agitator Supplies—
American Steel Works
Edward Soph
Southwestern Engineering Corp.

Air Chambers—Deep Well—
Union Machine Co.

Alloys—Copper—
Hills-McCanna Co.
International Nickel Co., Inc.

Alloys—Corrosion Resisting—
American Radiator Co.
American Sheet & Tin Plate Co.
American Stainless Steel Co.
Bethlehem Steel Co.
Duriron Co.
Hills-McCanna Co.
International Nickel Co., Inc.
Mooriane Co., Inc.
Petroleum Equipment Co. of Texas, Inc.
Republic Steel Corp.
A. O. Smith Corp.
Edward Soph
Stoody Co.
Timken Roller Bearing Co.
Tulsa Boiler & Machinery Co.

Alloys—Heat Resisting—
Allegheny Steel Co.
American Stainless Steel Co.
International Nickel Co., Inc.
Mooriane Co., Inc.
Republic Steel Corp.
A. O. Smith Corp.
Edward Soph
Stoody Co.
Timken Roller Bearing Co.

Alloys—Nickel—
Crane Co.
J. P. Devine Mfg. Co., Inc.
Harrisburg Pipe & Pipe Bending Co.
Hills-McCanna Co.
International Derrick & Equipment Co.
International Nickel Co., Inc.
Republic Steel Corp.
A. O. Smith Corp.
Edward Soph
Timken Roller Bearing Co.

Aluminum Powder—
Aluminum Co. of America
General Paint Corp.
Parkersburg Rig & Reel Co.
Sullivan Co.
Technical Products, Inc.

Ammonia—
Barrett Co.

Ammonia Headers—
Crane Co.
M. W. Kellogg Co.
Henry Vogt Machine Co.

Analyzers—Gas—
Brown Instrument Co.
Foxboro Co., Inc.
C. J. Tagliabue Mfg. Co.

Anchors—Tubing—
Hercules Tool Co.
Parkersburg Machine Co.

Apparatus—Acetylene—
Oxweld Acetylene Co.
Victor Welding Equipment Co.

Apparatus—Charcoal Distillation—
Alco Products, Inc.
E. B. Badger & Sons Co.

Apparatus—Chemical—
Allegheny Steel Co.
E. B. Badger & Sons Co.
Duriron Co.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Hercules Supply Co.
Walter E. Lummus Co.
Edward Soph
C. J. Tagliabue Mfg. Co.
Westinghouse Electric & Mfg. Co.

Apparatus—Distillation—
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Continental Supply Co.
Foster Wheeler Corp.
Griscom-Russell Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Walter E. Lummus Co.
Arthur G. McKee & Co.
Midwest Piping & Supply Co., Inc.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Winkler-Koch Engineering Co.

Apparatus—Fractionating—
Alco Products, Inc.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Chicago Bridge & Iron Works
Foster Wheeler Corp.
Hedges-Walsh-Weidner Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Walter E. Lummus Co.
Arthur G. McKee & Co.
Petroleum Engineering, Inc.
A. O. Smith Corp.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Whealton & Townsend, Inc., Ltd.
Winkler-Koch Engineering Co.

Apparatus Laboratory—
Duriron Co.
Hercules Supply Co.
Meriam Co.
C. J. Tagliabue Mfg. Co.
Tulsa Boiler & Machinery Co.

Arches—Furnace—
Bigelow-Liptak Corp.
Marion Machine, Foundry & Supply Co.

Arrestors—Flame—
Allegheny Steel Co.
Oil Conservation Engineering Co.
Westcott & Greis, Inc.

Arrestors—Lightning—
Miles P. Brown Boiler Works
General Electric Co.
Hercules Supply Co.
M. W. Kellogg Co.
Westinghouse Electric & Mfg. Co.

Asbestos Products—
American Car & Foundry Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Hercules Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
E. M. Smith Co.
Sullivan Co.

Asphalt Products—
Headley Emulsified Products

Automobiles—
Dodge Brothers Corp.
Reo Motor Car Co.

B

Babbitt—
Bridgeport Machine Co.
Continental Supply Co.
Eagle-Picher Lead Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
I. P. Morris & De La Vergne, Inc.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Norvell-Wilder Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.

Backfillers—Pipe Line—
Allsteel Products Mfg. Co.
Barber-Greene Co.
Buckeye Traction Ditcher Co.
Byers Machine Co.
Hercules Supply Co.
Northwestern Engineering Co.
Resistor Engineering Corp.
Trackson Co.
W-K-M Co.

Bags—Gas Main, Rubber and Canvas—
Safety Gas Main Stopper Co.

Bailers—
Acme Fishing Tool Co.
Allsteel Products Mfg. Co.
Baash-Ross Tool Co.
Baker Oil Tools Co., Inc.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
C. M. Heeter Sons & Co., Inc.
International Supply Co.
Layne & Bowler Co.
Lucey Products Corp.
J. H. McEvoy & Co.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works
Spang & Co.
Star Drilling Machine Co.

Balls—
Axelson Mfg. Co., Ltd.
Dresser & Gorton, Inc.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Petroleum Equipment Co. of Texas, Inc.

Balls and Seats—
Alexson Mfg. Co., Ltd.
Bradford Motors Works
Continental Supply Co.
Dresser & Gorton, Inc.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Ball Joints—Flexible—
Crane Co.
Elliott Manufacturing Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Taylor Forge & Pipe Works

Balls—Steel—
Bethlehem Steel Co.
Continental Supply Co.
Darling Valve & Mfg. Co.
Dresser & Gorton, Inc.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Iverson Tool Co.
Charles N. Hough Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Wilson Synder Mfg. Corp.

Band Wheels—
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
O'Brien Steel Construction Co., Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Banking—
Exchange Banks of Tulsa
First National Bank & Trust Co. Oklahoma City
First National Bank & Trust Co. Tulsa

Barrels—Liner—
Bradford Motor Works, Inc.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Barrels—Steel—
Bridgeport Machine Co.
Butler Manufacturing Co.
Columbian Steel Tank
Continental Supply Co.
Hercules Supply Co.
Lucey Products Corp.
National Supply Co.
Oil Well Supply Co.
Petroleum Iron Works Co.
Republic Supply Co.

Barrels Working—
Axelson Mfg. Co., Ltd.
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Corp.
C. M. Heeter Sons & Co., Inc.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Bars—Hangar—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
Parkersburg Machine Co.

Bars—Sinker—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
National Supply Co.
Parkersburg Machine Co.

Bars—Wrought Iron—
Highland Iron & Steel Co.

Baskets—Cone Fishing—
American Iron & Machine Works Co.

Batteries—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Republic Supply Co.
Westinghouse Electric & Mfg. Co.

Beam Hangers—
Beaumont Iron Works Co.
California Manufacturing & Engineering Co.
Continental Supply Co.

Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Walworth Co.

Beams—Walking—
Beaumont Iron Works Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
O'Brien Steel Construction Co., Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Wertzberger Derrick Co.

Bearings—Ball—
Buda Engine Service of Tulsa, Inc.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Derrick & Equipment Co.
Jno. Muller Co.
National Lead Co.
National Supply Co.
Norma Hoffman Bearings Corp.
Norvell-Wilder Supply Co.

Bearings—Roller—
Baash-Ross Tool Co.
Buda Engine Service Co. of Tulsa
Hercules Supply Co.
Hyatt Roller Bearing Co.
International Derrick & Equipment Co.
Jno. Muller Co.
National Lead Co.
National Supply Co.
Norma Hoffman Bearings Corp.
Parkersburg Rig & Reel Co.
Regan Forge & Engineering Co.
Timken Roller Bearing Co.
Union Machine Co.

Bearings—Thrust—
Beaumont Iron Works Co.
Imperial Belting Co.
International Derrick & Equipment Co.
Jno. Muller Co.
National Supply Co.
Norma Hoffman Bearings Corp.
Parkersburg Rig & Reel Co.
Timken Roller Bearing Co.
Union Machine Co.

Belting—Canvas—
Bridgeport Machine Co.
Continental Supply Co.
Fenwick-Reddaway Mfg. Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Imperial Belting Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
E. M. Smith Co.
Victor Balata & Textile Belting Co.

Belting—Cotton Woven—
Fenwick-Reddaway Mfg. Co.
Scandinavia Belting Co.
Victor Balata & Textile Belting Co.

Belting—Hair—
Fenwick-Reddaway Mfg. Co.

Belting—Leather—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Belting—Rubber—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
E. M. Smith Co.
Star Drilling Machine Co.

Belt—Conveyor—
Victor Balata & Textile Belting Co.
Barber-Greene Co.
Chain Belt Co.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hercules Supply Co.
Imperial Belting Co.
International Derrick & Equipment Co.
Link Belt Co.
Victor Balata & Textile Belting Co.
Wickwire Spencer Steel Co.

Belt Lacing—
Bridgeport Machine Co.
Bristol Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Belt Tighteners—
Allis-Chalmers Mfg. Co.
American Tank & Equipment Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Imperial Belting Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Joseph Reid Gas Engine Co.

Belt Transmission—
Bridgeport Machine Co.
Continental Supply Co.
Goodyear Tire & Rubber Co., Inc.
Hercules Supply Co.
Imperial Belting Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Scandinavia Belting Co.
E. M. Smith Co.

Benches—Work, Portable—
Toledo Pipe Threading Machine Co.
Henry Vogt Machine Co.
Republic Supply Co.
Ross-Meehan Foundries
Stockham Pipe & Fittings Co.
Superheater Co.
Tulsa Boiler & Machinery Co.
Walworth Co.

Bends—Pipe—
American Rolling Mill Co.
Brauer Machine & Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hamer Oil Tool Co., Ltd.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
M. W. Kellogg Co.
George B. Limbert & Co.
Midwest Piping & Supply Co.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Power Piping Co.
Reading Iron Co.
Ross-Meehan Foundries
Tulsa Boiler & Machinery Co.
Victor Balata & Textile Belting Co.
Henry Vogt Machine Co.
Walworth Co.
Westcott Valve Co.

Bends—Return—
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
M. W. Kellogg Co
Kennedy Valve Mfg. Co.
Kerotest Manufacturing Co.
Key Boiler Equipment Co.
Midwest Piping & Supply Co.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Norvell-Wilder Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Power Piping Co.
Pressed Steel Car Co.
Reading Iron Co.
Reading Steel Casting Co., Inc.
Taubman Supply Corp.

Bends—Tube—
American Rolling Mill Co.
Crane Co.
George B. Limbert & Co.
Grinnell Supply Co.
Harrisburg Pipe & Pipe Bending Co.
Midwest Piping & Supply Co., Inc.
National Lead Co.
National Supply Co.
Power Piping Co.
Pressed Steel Car Co.
Reading Iron Co.
Tulsa Boiler & Machinery Co.

Benzol—
Barrett Co.
Youngstown Sheet & Tube Co.

Billets—Forging—
American Rolling Mill Co.
Beaumont Iron Works Co.
Bethlehem Steel Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Harrisburg Pipe & Pipe Bending Co.
International Derrick & Equipment Co.
International Nickel Co., Inc.
International Supply Co.
Jones & Laughlin Steel Corp.
Oil Well Supply Co.
Reading Iron Co.
Republic Steel Corp.
Wickwire Spencer Steel Co.
Youngstown Sheet & Tube Co.

Binders—Load—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Bits—Cable Tool—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works
Spang & Co.
Star Drilling Machine Co.
Titusville Iron Works Co.

Bits—Fish Tail—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
American Steel Metal Works
B. K. Appleman
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
California Manufacturing & Engineering Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hopper Machine Works, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
LeBus Rotary Tool Works
Lucey Products Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Shaffer Tool Works
Spengler Tool Co.
Titusville Iron Works Co.

Bits—For Tongs—
Allen-Oliver Co.
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hougn Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Bits—Gumbo—
Alco Tool Co., Ltd.
American Iron & Machine Works Co.
B. K. Appleman
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
MacClatchie Mfg. Co.
National Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.

Bits—Paraffin—
American Iron & Machine Works Co.

Bits—Rotary—
Elliott Core Drilling Co.

Bits—Rotary Disc—
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
Guiberson Corp.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
P. L. & M. Co.
Republic Supply Co.
Titusville Iron Works Co.

Bits—Rotary Rock—
Alco Products, Inc.
Beaumont Iron Works Co.
Blackor Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Chicago Pneumatic Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Republic Supply Co.
Titusville Iron Works Co.

Blades—Surface Bit—
American Iron & Machine Works Co.

Bleeders—Tubing—
Bradford Motor Works, Inc.
Byron Jackson Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Regan Forge & Engineering Co.

Blocks—Breakout—
American Iron & Machine Works Co.

Blocks—Casing—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Spang & Co.
Williamsport Wire Rope Co.

Blocks—Crown—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.
Regan Forge & Engineering Co.
Titusville Iron Works Co.
Wertzberger Derrick Co.
Williamsport Wire Rope Co.

Blocks—Engine—
Brauer Machine & Supply Co.
Continental Supply Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Jno. Muller Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Blocks—Knockoff—
Miller Sand Pump Co.
Union Machine Co.

Blocks—Safety Disconnecting Steel Surface Equipment Co.

Blocks—Traveling—
Baash-Ross Tool Co., Inc.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Beaumont Iron Works Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
International Derrick & Equipment Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Williamsport Wire Rope Co.
Regan Forge & Engineering Co.

Blocks—Tubing—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.

Blowers—Centrifugal—
Coppus Engineering Corp.
Duriron Co.
General Electric Co.
Hercules Supply Co.
Moorlane Co., Inc.
Oil Well Supply Co.
Star Drilling Machine Co.
Westinghouse Electric & Mfg. Co.

Blowers—Rotary—
Bridgeport Machine Co.
Hercules Supply Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Stacey Engineering Co.
Young Engine Corp.

Blowers—Rotary, Positive—
Stacey Engineering Co.

Blowers—Soot—
Allegheny Steel Co.
Edward Soph
Marion Machine Foundry & Supply Co.
Oil Well Supply Co.

Blowers—Steam Jet—
A. M. Byers Co.
Coppus Engineering Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
Marion Machine Foundry & Supply Co.
Oil Well Supply Co.
Star Drilling Machine Co.

Blowers—Turbo—
A. M. Byers Co.
Coppus Engineering Corp.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Moorlane Co., Inc.
Oil Well Supply Co.
Edward Soph
Star Drilling Machine Co.
Terry Steam Turbine Co.
Westinghouse Electric & Mfg. Co.

Blowout Preventers—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bridgeport Machine Co.
Beaumont Iron Works Co.
Cameron Iron Works
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Kerotest Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
MacClatchie Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Shaffer Tool Works

Blow Torches—Oxy-Acetylene—
Hercules Supply Co.
Linde Air Products Co
Norvell-Wilder Supply Co.
Resistcor Engineering Corp.

Boards—Panel—
Consolidated Ashcroft Hancock Co., Inc.
Moon Manufacturing Co.
C. J. Tagliabue Mfg. Co.

Bodies—Truck—
American Steel Metal Works
Butler Mfg. Co.
Columbian Steel Tank
International Harvester Co.
Springfield Wagon & Trailer Co.

Boiler Masonry—
M. W. Kellogg Co.

Boiler Scale Remover—
Bridgeport Machine Co.
Dearborn Chemical Co.
Griscom-Russell Co.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Sullivan Co.

Boilers—
Bridgeport Machine Co.
Donovan Boiler Works, Inc.
Goslin-Birmingham Mfg. Co., Inc.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Supply Co.
Southwestern Engineering Corp
Titusville Iron Works Co.
Henry Vogt Machine Co.

Boilers—Marine—
Foster Wheeler Corp.
Hedges Walsh Weidner Co.
Reading Iron Co.
Sun Shipbuilding & Drydock Co.
Titusville Iron Works Co.

Boilers—Oil Country—
Bridgeport Machine Co.
Beaumont Iron Works Co.
Broderick Co.
Continental Supply Co.
Donovan Boiler Works, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
International Derrick & Equipment Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Supply Co.
Titusville Iron Works Co.
Henry Vogt Machine Co.

Boilers—Superheated—
Broderick Co.
Continental Supply Co.
Donovan Boiler Works, Inc.

Frick-Reid Supply Corp.
International Supply Co.
Lucey Products Corp.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Titusville Iron Works Co.

Boilers—Upright Tubular—
Continental Supply Co.
Hercules Supply Co.
National Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Titusville Iron Works Co.

Bolts and Nuts—
American Rolling Mill Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Black, Sivalls & Bryson, Inc.
Bethlehem Steel Co.
Columbian Steel Tank
Continental Supply Co.
Crane Co.
Duriron Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Nickel Co., Inc.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
George B. Limbert & Co.
Moorlane Co., Inc.
Jno. Muller Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Screw & Bolt Corp.
Parkersburg Rig & Reel Co.
Republic Steel Corp.
Republic Supply Co.
Spang & Co.
Tulsa Boiler & Machinery Co.

Bolt Die Heads—
Bignall & Keeler Machine Works
Landis Machine Co.
D. S. Mair Machinery Corp.

Bolts—Drive Clamps—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Republic Steel Corp.
Oil Well Supply Co.
Spang & Co.
Victor Balata & Textile Belting Co.

Bolt Threading Machines—
Bignall & Keeler Machine Works
Landis Machine Co.
D. S. Mair Machinery Corp.

Bombs—Temperature—
Martin-Decker Corp.

Bombs—Vapor Pressure—
J. A. Campbell Co.
C. J. Tagliabue Mfg. Co.

Booms—Pipe Handling—
Baash-Ross Tool Co.
Hercules Supply Co.
International Derrick & Equipment Co.
National Supply Co.
Northwestern Engineering Co.
Oil Well Supply Co.
Resistcor Engineering Corp.

Boosters—
Hercules Supply Co.
Stacey Engineering Co.

Boosters—Gas—
Allis-Chalmers Mfg. Co.
Frick-Reid Supply Corp.
General Electric Co.
Ingersoll-Rand Co.
National Supply Co.
National Transit Pump & Machine Co.
Stacey Engineering Co.
Sullivan Machinery Co.
Worthington Pump & Machinery Corp.
Young Engine Corp.

Bottles—Cubic Foot—
Metric Metal Works

Bowls—Casing—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.

Boxes—Condenser—
Alco Products, Inc.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Miles P. Brown Boiler Works
Butler Manufacturing Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Foster Wheeler Corp.
Kirk-Morrow Iron Works, Inc.
Kaw Steel Construction Co.
McClintic-Marshall Co.
North American Car Corp.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.

Boxes—Cork Lined—
Southern Cornice Works

Boxes—Float—
Bridgeport Machine Co.
Hercules Supply Co.

Boxes—Gauge—
Martin-Decker Corp.

Boxes—Lock—
Columbian Steel Tank
Continental Supply Co.
Foster Wheeler Corp.
Frick-Reid Supply Corp.
Hercules Supply Co.
Kirk-Morrow Iron Works, Inc.
National Supply Co.
Oil Conservation Engineering Co.
Tulsa Boiler & Machinery Co.

Boxes—Roller—
Union Machine Co.

Boxes—Stuffing—
Axelson Mfg. Co., Ltd.
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
C. M. Hecter Sons & Co.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Field Engineering Corp.
Oil Well Improvements Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Tulsa Boiler & Machinery Co.

Boxes—Tool—
American Iron & Machine Works
American Steel Metal Works
American Tank & Equipment Corp.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Columbian Steel Tank
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Littleford Brothers
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Spengler Tool Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.

Braces—Circle—
American Iron & Machine Works Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.

Braces—Drawworks—
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Brauer Machine & Supply Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.

Braces—Rig, Adjustable—
American Iron & Machine Works Co.

Braces—Tool—
Byron Jackson Co.
C. M. Heeter Sons & Co., Inc.

Brackets—Sheave—
Beaumont Iron Works Co.
Miles P. Brown Boiler Works
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
Murray Tool & Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Tulsa Boiler & Machinery Co.

Bradenheads—
Paul Arbon & Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Brauer Machine & Supply Co.
Continental Supply Co.
Frick-Reid Supply Corp.
C. M. Heeter Sons & Co., Inc.
Hercules Supply Co.
Hercules Tool Co.
Houston Car Wheel & Machine Co.
International Supply Co.
Jarecki Manufacturing Co.
J. H. McEvoy & Co.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Field Engineering Corp.
Oil Well Improvements Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Regan Forge & Engineering Co.
Republic Supply Co.
Shaffer Tool Works

Brake Lining—
Bartlesville Supply Co.
Bridgeport Machine Co.
Beaumont Iron Works Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Jno. Muller Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.
Scandinavia Belting Co.
E. M. Smith Co.
Wagner Electric Co.

Brass—Bar Stock—
Hercules Supply Co.

Brasses—Engine—
Baash-Ross Tool Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
I. P. Morris & De La Vergne, Inc.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Breaker—Joint—
Brewster Co., Inc.
Emsco Derrick & Equipment Co.
International Supply Co.
LeBus Rotary Tool Works
Murray Tool & Supply Co.
Oil Well Supply Co.

Breakers—Concrete—
Ingersoll-Rand Co.
Norvell-Wilder Supply Co.
Schramm, Inc.

Brick—Acid Proof—
Hercules Supply Co.
M. W. Kellogg Co.
National Supply Co.

Brick—Common—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Murray Tool & Supply Co.
National Supply Co.

Brick—Fire—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Republic Supply Co.

Bridges—Steel—
Bethlehem Steel Co.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
North American Car Corp.
Pittsburgh-Des Moines Steel Co.

Bronze—
Bridgeport Machine Co.
Hercules Supply Co.
Hills-McCanna Co.
I. P. Morris & De La Vergne, Inc.
Murray Tool & Supply Co.

Bronze Powder—Aluminum—
Aluminum Co. of America
Columbian Steel Tank
General Paint Corp.
Sullivan Co.

Brooms—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Republic Supply Co.

Brushes—Motor—
Bridgeport Machine Co.
Hercules Supply Co.
Joseph Dixon Crucible Co.
National Supply Co.

Brushes—Paint—
American Steel Works
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Resistcor Engineering Corp.

Brushes—Pipe Cleaning—
Safety Gas Main Stopper Co.

Buckets—Clam Shell—
Link Belt Co.

Buckets—Water—
Bridgeport Machine Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Buildings—All Metal—
American Rolling Mill Co.
Butler Manufacturing Co
Columbian Steel Tank
Dresser & Gorton, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
McClintic-Marshall Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Pittsburgh-Des Moines Steel Co.
Stefco Steel Co.
Truscon Steel Co.

Buildings—Ready-Made Steel—
American Rolling Mill Co.
Butler Manufacturing Co.
Columbian Steel Tank
Dresser & Gorton, Inc.
Drane Humphreys Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
McClintic-Marshall Co.
National Supply Co.
Parkersburg Rig & Reel Co.
Stefco Steel Co.
Truscon Steel Co.

Buildings—Sectional Steel—
American Rolling Mill Co.
Black, Sivalls & Bryson, Inc.
Butler Manufacturing Co.
Columbian Steel Tank
Dresser & Gorton, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
McClintic-Marshall Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Parkersburg Rig & Reel Co.
Stefco Steel Co.
Truscon Steel Co.

Buildings—Sectional Wood—
Houston Ready Cut House Co.

Buildings—Steel—
American Rolling Mill Co.
Butler Manufacturing Co.
Bethlehem Steel Co.
Columbian Steel Tank
Dresser & Gorton, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
McClintic-Marshall Co.
North American Car Corp.
Pittsburgh-Des Moines Steel Co.
Parkersburg Rig & Reel Co.
Stefco Steel Co.
Truscon Steel Co.
Wyatt Metal & Boiler Works

Bull—Rings—Steel Substitutes—
Surface Equipment Co.

Bull—Ropes—
Bridgeport Machine Co.
Columbian Rope Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Plymouth Cordage Co.
Republic Supply Co.
St. Louis Cordage Mills Co.
Wall Rope Works, Inc.

Bull Wheels—
Beaumont Iron Works Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
International Derrick & Equipment Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
O'Brien Steel Construction Co., Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Burners—Gas—
Bridgeport Machine Co.
Frick-Reid Supply Corp.
Gilbert & Barker Mfg. Co.
Hercules Supply Co.
Inferno Gas Burner Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Airoil Burner Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Okmulgee Boiler & Welding Works
Parkersburg Machine Co.
Republic Supply Co.
Swindell-Dressler Corp.
Volcano Burner, Inc.
John Zink Co.

Burners—Gas and Oil—
Allegheny Steel Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Hercules Supply Co.
International Supply Co.
Lucey Products Corp.
National Airoil Burner Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Swindell-Dressler Corp.
W-K-M Co.
John Zink Co.

Burners—Kerosene—
American Steel Works
Hercules Supply Co.
Oil Well Supply Co.
Standard Steel Works

Burners—Oil—
American Steel Works
Bridgeport Machine Co.
Bethlehem Steel Co.
Frick-Reid Supply Corp.
Gilbert & Barker Mfg. Co.
Hercules Supply Co.
International Supply Co.
Littleford Brothers
Lucey Products Corp.
National Airoil Burner Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
W-K-M Co.

Burners—Oil, Steam Atomizing—
Bridgeport Machine Co.
Gilbert & Barker Mfg. Co.
Hercules Supply Co.
National Airoil Burner Co.
National Supply Co.
Oil Well Supply Co.
W-K-M Co.
John Zink Co.

Burners—Pulverized Fuel—
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.

Burners—Rotary Sludge—
Hercules Supply Co.
National Airoil Burner Co.

Bushings—
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Byron Jackson Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kennedy Valve Mfg. Co.
Murray Tool & Supply Co.
National Lead Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Stockham Pipe & Fittings Co.
Henry Vogt Machine Co.
Westinghouse Electric & Mfg. Co.

Bushings—Pipe—
Crane Co.
Grinnell Co., Inc.
Jarecki Manufacturing Co.
William Powell Co.
Walworth Co.

Bushings—Rotary Drive—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Byron Jackson Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Haynes Stellite Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Oil Well Supply Co.
Republic Supply Co.

Busters—Collar—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.

Butane—
Warren Petroleum Co.

C

Cable—Electrical Transmission—
Aluminum Co. of America
American Steel & Wire Co.
General Electric Co.
Hercules Supply Co.
National Supply Co.
United American Bosch Corp.
Westinghouse Electric & Mfg. Co.

Cables—Manila—
Bridgeport Machine Co.
Columbian Rope Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Plymouth Cordage Co.
Republic Supply Co.
Star Drilling Machine Co.
Wall Rope Works, Inc.

Cables—Steel—
American Cable Co.
American Steel & Wire Co.
Baash-Ross Tool Co.
Black Wire Rope Co.
Broderick & Bascom Rope Co.
Brown Instrument Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hazard Wire Rope Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
A. Leschen & Sons Rope Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Macwhyte Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Star Drilling Machine Co.
Union Wire Rope Corp.
Wickwire Spencer Steel Co.
Williamsport Wire Rope Co.

Calcium Carbide—
National Lead Co.
Union Carbide Sales Co.

Calcium Chloride—
Dow Chemical Co.
Hercules Supply Co.

Sullivan Co.
Henry Vogt Machine Co.

Calculators—
Hercules Supply Co.

Calf Rope—
Columbian Rope Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Plymouth Cordage Co.
St. Louis Cordage Mills Co.

Calf Wheel—Steel—
Continental Supply Co.
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Calorimeters—
Allegheny Steel Co.
Metric Metal Works
C. J. Tagliabue Mfg. Co.
Taylor Instrument Co.

Cans—
American Steel Works
Columbian Steel Tank
Hercules Supply Co.
Oil Well Supply Co.

Cans—Water—
American Steel Works
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
H. P. Gott Mfg. Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Henry Vogt Machine Co.

Caps—Bubble—
Alco Products, Inc.
American Radiator Co.
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
Crane Co.
Heat Transfer Products, Inc.
M. W. Kellogg Co
Oil Conservation Engineering Co.
National Supply Co.
Ross-Meehan Foundries Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Caps—Casing—
Moser Manufacturing Co.

Caps—Pipe—
Moser Manufacturing Co.

Caps—Still—
Alco Products, Inc.
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
National Supply Co.
Ross-Meehan Foundries Co.

Carbide—
Frick-Reid Supply Corp.
Hercules Supply Co.
Linde Air Products Co.
National Lead Co.
Norvell-Wilder Supply Co.
Union Carbide Sales Co.

Carbon—For Diamond Core Drilling—
R. S. Patrick

Carburetors—Natural Gas Mixing—
Hercules Supply Co.
Larkin Packer Co.
Leader Iron Works
Jno. Muller Co.
Star Drilling Machine Co.

Carriers—Pull Rod—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Carts—Slip Tongue—
Hercules Supply Co.

Cars—Tank—
General American Tank Car Corp.
North American Car Corp.
Petroleum Iron Works Co.
Pressed Steel Car Co.

Casing—Roller—
Blackor Co.
Hercules Supply Co.
Continental Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.

Casing—Steel—
Baash-Ross Tool Co.
Biggs Boiler Works Co.
Bridgeport Machine Co.
Central Tube Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
George B. Limbert & Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Republic Steel Corp.
Republic Supply Co.
A. O. Smith Corp.
South Chester Tube Co.
Spang, Chalfant & Co.
Taubman Supply Corp.
Tulsa Boiler & Machinery Co
Youngstown Sheet & Tube Co.

Casing—Wrought Iron—
Bridgeport Machine Co.
A. M. Byers Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
Lucey Products Corp.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
South Chester Tube Co.

Casing Connections—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Improvements Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Walworth Co.
Youngstown Sheet & Tube Co.

Casingheads—See Bradenheads—
Paul Arbon & Co.
Baash-Ross Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hercules Tool Co.
Houston Car Wheel & Machine Co.
International Derrick & Equipment Co.
International Supply Co.
Larkin Packer Co.
Lucey Products Corp.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Improvements Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Regan Forge & Engineering Co.
Republic Supply Co.
Shaffer Tool Works
Walworth Co.

Casinghead Controls—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Cameron Iron Works
Continental Supply Co.
Davis Regulator Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
MacClatchie Mfg. Co.
McAlear Manufacturing Co.
J. H. McEvoy & Co.
National Supply Co.
Neilan Co., Ltd.
Oil Well Improvements Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Shaffer Tool Works
Strong Carlisle & Hammond Co.

Casing Machines—
Hercules Supply Co.
Resistcor Engineering Corp.

Casing Shoes—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Cameron Iron Works
Continental Supply Co.
Doheny Stone Drill Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hopper Machine Works
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Lucey Products Corp.
J. H. McEvoy & Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Shaffer Tool Works
Texas Steel Co.

Castings—Alloy Steel—
Allegheny Steel Co.
Beaumont Iron Works Co.
Bethlehem Steel Co.
Miles P. Brown Boiler Works
Chain Belt Co.
DeSoto Foundry & Machine Co., Ltd.
Duriron Co.
Frick-Reid Supply Corp.
International Derrick & Equipment Co.
I. P. Morris & De La Vergne, Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Reading Iron Co.
Ross-Meehan Foundries Co.
Sivyer Steel Casting Co.
Stockham Pipe & Fittings Co.
Trackson Co.
Walworth Co.

Castings—Aluminum—
Aluminum Co. of America
Beaumont Iron Works Co.
Grinnell Co., Inc.
MacClatchie Mfg. Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Parkersburg Rig & Reel Co.
Reading Iron Co.
Ross-Meehan Foundries Co.
Union Machine Co.

Castings—Brass—
Beaumont Iron Works Co.
Bethlehem Steel Co.
Grinnell Co., Inc.
Hercules Tool Co.
Hills-McCanna Co.
Chas. N. Hough Mfg. Co.
Kirk-Morrow Iron Works., Inc.
MacClatchie Mfg. Co.
Murray Tool & Supply Co.
I. P. Morris & De La Vergne, Inc.
National Lead Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Pittsburgh Equitable Meter Co.
Reading Iron Co.
Walworth Co.

Castings—Bronze—
Beaumont Iron Works Co.
Bethlehem Steel Co.
Crosby Steam Gage & Valve Co.
Grinnell Co., Inc.
Hercules Tool Co.
Hills-McCanna Co.
Chas. N. Hough Mfg. Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
MacClatchie Mfg. Co.
I. P. Morris & De La Vergne, Inc.
Murray Tool & Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Pittsburgh Equitable Meter Co.
Reading Iron Co.
Reading Steel Casting Co., Inc.

Castings—Electric Steel—
Beaumont Iron Works Co.
Bethlehem Steel Co.
Brewster Co., Inc.
Chain Belt Co.
International Derrick & Equipment Co.
Link Belt Co.
I. P. Morris & De La Vergne, Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Reading Iron Co.
Reading Steel Casting Co., Inc.
Sivyer Steel Casting Co.
Stockham Pipe & Fittings Co.
Sterling Steel Casting Co.
Texas Steel Co.
Walworth Co.

Castings—Gray Iron—
American Radiator Co.
Beaumont Iron Works Co.
Bethlehem Steel Co.
Miles P. Brown Boiler Works
Chain Belt Co.
DeSoto Foundry & Machine Co., Ltd.
Emsco Derrick & Equipment Co.
Foote Bros. Gear & Machine Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Goslin-Birmingham Mfg. Co., Inc.
Grinnell Co., Inc.
Hedges-Walsh-Weidner Co.
Houston Car Wheel & Machine Co.
International Derrick & Equipment Co.
International Supply Co.
Joseph Reid Gas Engine Co.
Kirk-Morrow Iron Works, Inc.
Link Belt Co.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
I. P. Morris & De La Vergne, Inc.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Ottumwa Iron Works
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Reading Iron Co.
Ross-Meehan Foundries Co.
Stockham Pipe & Fittings Co.
Union Machine Co.
Henry Vogt Machine Co.
Walworth Co.
Western Gas Construction Co.
Winkler-Koch Engineering Co.
Worthington Pump & Machinery Corp.

Castings—Heat Resisting—
Beaumont Iron Works Co.
Bethlehem Steel Co.
Chain Belt Co.
Emsco Derrick & Equipment Co.
Goslin-Birmingham Mfg. Co., Inc.
International Derrick & Equipment Co.
I. P. Morris & De La Vergne, Inc.
Parkersburg Rig & Reel Co.
Reading Iron Co.
Ross-Meehan Foundries Co.
Edward Soph
Stockham Pipe & Fittings Co.

Castings—Hold Down Steel—Heads—
Surface Equipment Co.

Castings—Hold Up Steel—Heads—
Surface Equipment Co.

Castings—Machine—
Beaumont Iron Works Co.
Bethlehem Steel Co.
DeSoto Foundry & Machine Co., Ltd.
Foote Bros. Gear & Machine Co.
Gaso Pump & Burner Mfg. Co.
Goslin-Birmingham Mfg. Co., Inc.
Houston Car Wheel & Machine Co.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
I. P. Morris & De La Vergne, Inc.
Oil Well Supply Co.
Ottumwa Iron Works
Parkersburg Rig & Reel Co.
Reading Iron Co.
Ross-Meehan Foundries Co.
Sivyer Steel Casting Co.
Stockham Pipe & Fittings Co.
Union Machine Co.
Western Gas Construction Co.

Castings—Monel Metal—
Crosby Steam Gage & Valve Co.
Hills-McCanna Co.
International Nickel Co., Inc.
Oil Well Supply Co.
Reading Iron Co.

Castings—Steel—
Bethlehem Steel Co.
Brewster Co., Inc.
Miles P. Brown Boiler Works
Chain Belt Co.
DeSoto Foundry & Machine Co., Ltd.
Falk Corp.
Foote Bros. Gear & Machine Co.
Frick-Reid Supply Corp.
International Derrick & Equipment Co.
Link Belt Co.
Lunkenheimer Co.
I. P. Morris & De La Vergne, Inc.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Reading Iron Co.
Reading Steel Casting Co.
Ross-Meehan Foundries Co.
Sivyer Steel Casting Co.
Sterling Steel Casting Co.
Trackson Co.
Walworth Co.

Catchers—Flow—
California Manufacturing & Engineering Co.
Hercules Supply Co.
National Supply Co.

Catchers—Sucker Rod—
Bridgeport Machine Co.
Butler Manufacturing Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Guiberson Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Catchers—Tubing—
Bridgeport Machine Co.
Butler Manufacturing Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hercules Tool Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Smith Separator Co.

Cathead—
Allen-Oliver Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
LeBus Rotary Tool Works
Lucey Products Corp.
MacClatchie Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Wall Rope Works Co.

Caustic Soda—
Dow Chemical Co.

Cement Guns—
Hercules Supply Co.
Schramm, Inc.

Cement—Acid Proof—
Corona Products Co.
M. W. Kellogg Co.
Smooth-On Manufacturing Co.
Sullivan Co.

Cement—Fire Brick—
Bridgeport Machine Co.
M. W. Kellogg Co.
Lufkin Foundry & Machine Co.
Norvell-Wilder Supply Co.
Smooth-On Manufacturing Co.
Sullivan Co.

Cement—High Temperature—
M. W. Kellogg Co.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Norvell-Wilder Supply Co.
Philip Carey Co.
Smooth-On Manufacturing Co.
Sullivan Co.

Cements—Insulating—
Eagle-Picher Lead Co.
Headley Emulsified Products Co.
Philip Carey Co.
Sullivan Co.
Westinghouse Electric & Mfg. Co.
W-K-M Co.

Cements—Refractory—
Joseph Dixon Crucible Co.
M. W. Kellogg Co.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Norvell-Wilder Supply Co.
Sullivan Co.

Centrifuges—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
National Supply Co.
Republic Supply Co.
C. J. Tagliabue Mfg. Co.

Chains—Lead Binding—
American Chain Co.
American Steel Works
Baldwin-Duckworth Chain Corp.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Chains—Rotary—
Baldwin-Duckworth Chain Corp.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Chain Belt Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Link Belt Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Spengler Tool Co.

Chains—Silent—
Baldwin-Duckworth Chain Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Link Belt Co.
Oil Well Supply Co.

Chains—Transmission—
Baldwin-Duckworth Chain Corp.
Chain Belt Co.
Dresser & Gorton, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Link Belt Co.
Lufkin Foundry & Machine Co.
Oil Well Supply Co.
Spengler Tool Co.

Charcoal Distillation Apparatus—
Alco Products, Inc.
Black, Sivalls & Bryson, Inc.

Chemical—Mixing Equipment—Sewers Manufacturing Co.

Chemicals—
Barrett Co.
Dow Chemical Co.
National Pigments & Chemical Co.
Sullivan Co.

Chemicals—Crude Oil Treating—
Tretolite Co.
Vex Co.

Chillers—Oil—
Alco Products, Inc.
Henry Vogt Machine Co.

Chimneys—Brick and Concrete—
M. W. Kellogg Co.

Christmas Trees—
Alco Tool Co., Ltd.
Beaumont Iron Works Co.
Bridgeport Machine Co.,
Continental Supply Co.
Crane Co.
Elliott Manufacturing Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Kerotest Manufacturing Co.
Lucey Products Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Shaffer Tool Works
Walworth Co.
Westcott Valve Co.

Circuit Breakers—
Alco Products, Inc.
Hercules Supply Co.
National Supply Co.
Oil Well Supply Co.

Clamps—Anchor—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Continental Supply Co.
S. R. Dresser Mfg. Co.

Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Shaffer Tool Works
Walworth Co.

Clamps—Bailer—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.

Clamps—Belt—
Beaumont Iron Works Co.
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Tool Co.
Charles N. Hough Mfg. Co.
Imperial Belting Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Steel Corp.
Republic Supply Co.
Victor Balata & Textile Belting Co.

Clamps—Casing—
Acme Fishing Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hopper Machine Works
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
LeBus Rotary Tool Works
Lucey Products Corp.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Shaffer Tool Works
Texas Steel Co

Clamps—Collar Leak—
Beaumont Iron Works Co.
Continental Supply Co.
S. R. Dresser Mfg. Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Transit Pump & Ma-
National Supply Co.
Norvell-Wilder Supply Co.
chine Co.
Oil Well Supply Co.
Republic Supply Co.

Clamps—Combination—
Union Machine Co.

Clamps—Drilling—
Baash-Ross Tool Co.
Acme Fishing Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Sterling Steel Casting Co.

Clamps—Drive—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Spang & Co.
Star Drilling Machine Co.
Sterling Steel Casting Co.

Clamps—Friction—
Union Machine Co.

Clamps—Hose—
American Iron & Machine Works Co.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
California Manufacturing & Engineering Co.
Continental Supply Co.
Crane Co.
Elliott Manufacturing Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
Hamer Oil Tool Co., Ltd.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Clamps—Knockoff—
Union Machine Co.

Clamps—Lap Steel—
Surface Equipment Co.

Clamps—Measuring Line Steel—
Moser Manufacturing Co.

Clamps—Pipe—
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
S. R. Dresser Mfg. Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Grinnell Co., Inc.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
Miller Sand Pump Co.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Resistcor Engineering Corp.
Ross-Meehan Foundries Co.
Smooth-On Manufacturing Co.
Walworth Co.
W-K-M Co.

Clamps—Polish Rod—
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Grant Oil Tool Co.
Hercules Supply Co.
Hercules Tool Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Marion Machine Foundry & Supply Co.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Shaffer Tool Works
Texas Steel Co.
Union Machine Co.

Clamps—Polish Rod Hinged Steel
Surface Equipment Co.

Clamps—Pull Rod—
Axelson Mfg. Co., Ltd.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Joseph Reid Gas Engine Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Union Machine Co.

Clamps—Pull Rod Combination Drop Forged Reversible—
Surface Equipment Co.

Clamps—Pull Rod Friction—
Surface Equipment Co.

Clamps—River—
Beaumont Iron Works Co.
Continental Supply Co.
S. R. Dresser Mfg. Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Goslin-Birmingham Mfg. Co., Inc.
Hercules Supply Co.
Houston Car Wheel & Machine Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Union Machine Co.
Westcott Valve Co.

Clamps—Saddle—
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Union Machine Co.
Walworth Co.

Clamps—Temper Screw—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Spang & Co.
Sterling Steel Casting Co.
Star Drilling Machine Co.

Clamps—Welding Pipe—
American Tank & Equipment Corp.
S. R. Dresser Mfg. Co.
Hercules Supply Co.
Oil Well Supply Co.

Clamps—Wire Line—
Acme Fishing Tool Co.
American Steel & Wire Co.
Paul Arbon & Co.
Bridgeport Machine Co.
Charles A. Butler Mfg. Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Steel Corp.
Republic Supply Co.
Star Drilling Machine Co.
Williamsport Wire Rope Co.

Clays—Bleaching—
Hercules Supply Co.

Clays—Fire—
Bridgeport Machine Co.
Hercules Supply Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.

Cleaners—Tank—
Oakite Products, Inc.
Oil Conservation Engineering Co.
Pressed Steel Car Co.

Cleaners—Tank Car—
Oakite Products, Inc.
Pressed Steel Car Co.

Cleaning—Pipe—
American Steel Works
Dearborn Chemical Co.
Hercules Supply Co.
W-K-M Co.

Clevices—Adjustable Two-Hole—
Surface Equipment Co.

"C" Links—
Beaumont Machine Works Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.

"C" Links—Drop Forged—
Surface Equipment Co.

Clinographs—
Driftmeter, Inc.
Patterson-Ballagh Corp.
Sperry-Sun Well Surveying Co.

Clocks—
Consolidated Ashcroft Hancock Co., Inc.
Crosby Steam Gage & Valve Co.
C. J. Tagliabue Mfg. Co.

Cloth—Filters—
Oliver United Filters, Inc.

Cloth—Monel—
Oliver United Filters, Inc.

Clutches—Countershaft—
Allis-Chalmers Mfg. Co.
Beaumont Iron Works Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Joseph Reid Gas Engine Co.
Union Machine Co.

Clutches—Friction—
Allis-Chalmers Mfg. Co.
Beaumont Iron Works Co.
Buda Engine Service Co. of Tulsa
Chain Belt Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Foote Bros. Gear & Machine Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Joseph Reid Gas Engine Co.
Link Belt Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Jno. Muller Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Twin Disc Clutch Co.
Union Machine Co.

Clutches—Lever—
Beaumont Iron Works Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Marion Machine Foundry & Supply Co.
Jno. Muller Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Twin Disc Clutch Co.
Union Machine Co.

Clutches—Reversible—
Cooper-Bessemer Corp.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Joseph Reid Gas Engine Co.

Coal—Pulverized, Systems—
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Jackson Engineering Corp.

Coatings—Acid Proof—
Columbian Steel Tank
General Electric Co.
General Paint Corp.
Barrett Co.
Continental Supply Co.
B. F. Goodrich Rubber Co.
Headley Emulsified Products Co.
International Supply Co.
McEverlast, Inc.
Technical Products, Inc.
Wailes, Dove-Hermiston Corp.

Coatings—Alkali Proof—
Barrett Co.
Columbian Steel Tank
Continental Supply Co.
General Electric Co.
General Paint Corp.
Headley Emulsified Products Co.
Hercules Supply Co.
McEverlast, Inc.
Technical Products, Inc.
Wailes, Dove-Hermiston Corp.

Coatings—Cement—
Continental Supply Co.
General Electric Co.
Headley Emulsified Products Co.
General Paint Corp.
Technical Products, Inc.

Coatings—Floor—
Continental Supply Co.
General Electric Co.
General Paint Corp.
Headley Emulsified Products Co.
Hercules Supply Co.
Joseph Dixon Crucible Co.
Pure Oil Co.
A. O. Smith Corp.

Coatings—Pipe—
Barrett Co.
Conley Plastering Machine Co.
Continental Supply Co.
Dearborn Chemical Co.
E. I. Du Pont de Nemours & Co., Inc.
Frick-Reid Supply Corp.
General Electric Co.
General Paint Corp.
Hercules Supply Co.
Headley Emulsified Products Co.
McEverlast, Inc.
National Tank Seal Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Philip Carey Co.
Resistcor Engineering Corp.
A. O. Smith Corp.
Technical Products, Inc.
Wailes, Dove-Hermiston Corp.
W-K-M Co.

Coatings—Protective—
Aluminum Co. of America
Barrett Co.
Continental Supply Co.
Dearborn Chemical Co.
E. I. Du Pont de Nemours & Co., Inc.
Eagle-Picher Lead Co.
General Electric Co.
General Paint Corp.
Headley Emulsified Products Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Joseph Dixon Crucible Co.
McEverlast, Inc.
Oil Well Supply Co.
Parkersburg Machine Co.
Philip Carey Co.
Resistcor Engineering Corp.
Technical Products, Inc.
Wailes, Dove-Hermiston Corp.
W-K-M Co.

Coatings—Waterproof—
Aluminum Co. of America
Barrett Co.
Continental Supply Co.
E. I. Du Pont de Nemours & Co., Inc.
General Electric Co.
General Paint Corp.
Hercules Supply Co.
Headley Emulsified Products Co.
McEverlast, Inc.
Oil Well Supply Co.
Philip Carey Co.
Resistcor Engineering Corp.
Shaffer Tool Works
Technical Products, Inc.
Victor Balata & Textile Belting Co.
Wailes, Dove-Hermiston Corp.
W-K-M Co.

Coatings—Water Gauge—
Continental Supply Co.

Cocks—
Axelson Mfg. Co. Ltd.
Bartlesville Supply Co.
Bridgeport Machine Co.
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Crosby Steam Gage & Valve Co.
Duriron Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lunkenheimer Co.
MacClatchie Mfg. Co.
Merco Nordstrom Valve Co.
Murray Tool & Supply Co.
National Lead Co.
Oil Well Supply Co.
Penberthy Injector Co.
William Powell Co.
Reading Steel Casting Co.
Republic Supply Co.
Shaffer Tool Works
Henry Vogt Machine Co.
Walworth Co.

Cocks—Water Gauge—
Brauer Machine & Supply Co.
Bridgeport Machnie Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Jerguson Gage & Valve Co.
Lucey Products Corp.
Lunkenheimer Co.
Murray Tool & Supply Co.
National Tank Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
William Powell Co.
Republic Supply Co.
Henry Vogt Machine Co.
Walworth Co.

Coils and Bends—Pipe—
Alco Products, Inc.
Crane Co.
Grinnell Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
M. W. Kellogg Co.
Mooriane Co., Inc.
I. P. Morris & De La Vergne, Inc.
National Lead Co.
National Supply Co.
Oil Well Supply Co.
Power Piping Co.
Reading Iron Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Walworth Co.

Coils—Cooling—
American Radiator Co.
Alco Products, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
Crane Co.
Fluor Corp., Ltd.
Frick-Reid Supply Corp.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Jackson Engineering Corp.
I. P. Morris & De La Vergne, Inc.
National Supply Co.
Oil Well Supply Co.
Petroleum Engineering, Inc.
Power Piping Co.
Reading Iron Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Western Gas Construction Co.

Coils—Lead Covered—
National Lead Co.

Coils—Pipe and Tubing—
American Radiator Co.
Aluminum Co. of America
Crane Co.
Duriron Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
Jackson Engineering Corp.
George B. Limbert & Co.
Mooriane Co., Inc.
I. P. Morris & De La Vergne, Inc.
National Lead Co.
Oil Well Supply Co.
Power Piping Co.
Superheater Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Coils—Refrigerating—
Alco Products, Inc.
American Radiator Co.
Crane Co.
Frick-Reid Supply Corp.
Mooriane Co., Inc.
I. P. Morris & De La Vergne, Inc.
Power Piping Co.
Reading Iron Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Collars—Drill—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Brewster Co., Inc.
Bridgeport Machine Co.

Byron Jackson Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
LeBus Rotary Tool Works
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Spengler Tool Co.

Collars—Float—
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
LeBus Rotary Tool Works
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Columns—Cast Iron—
American Cast Iron Pipe Co.

Columns—Fractionating—
Alco Products, Inc.
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
C. F. Braun & Co.
Hedges-Walsh-Weidner Co.
Henry Vogt Machine Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Walter E. Lummus Co.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Wyatt Metal Boiler Works

Compensators—Automatic Electric—
Allis-Chalmers Mfg. Co.
General Electric Co.
Westinghouse Electric & Mfg. Co.

Compounds—Boiler—
Bridgeport Machine Co.
Continental Supply Co.
Dearborn Chemical Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Smooth-On Manufacturing Co.
Sullivan Co.
Victor Welding Equipment Co.

Compounds—Graphite Pipe Joint—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Joseph Dixon Crucible Co.
Key Boiler Equipment Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Smooth-On Mfg. Co.
Sullivan Co.

Compounds—Paint Removing—
Oakite Products, Inc.

Compounds—Pipe—
Frick-Reid Supply Corp.
General Electric Co.
Headley Emulsified Products Co.
Hercules Supply Co.
International Supply Co.
Joseph Dixon Crucible Co.
National Supply Co.
Oil Well Supply Co.
Resistcor Engineering Corp.
Smooth-On Manufacturing Co.
Sullivan Co.
Wailes, Dove-Hermiston Corp.

Compounds—Waterproofing—
Headley Emulsified Products Co.
Oil Well Supply Co.
Philip Carey Co.
Smooth-On Manufacturing Co.
Sullivan Co.
Technical Products, Inc.
Truscon Steel Co.
Victor Balata & Textile Belting Co.
Wailes, Dove-Hermiston Corp.

Compressor Stations—Design and Installation—
Clark Brothers Co.
Cooper-Bessemer Corp.
Dresser & Gorton, Inc.
Fluor Corp., Ltd.
General Electric Co.
Hope Engineering Co.
International Derrick & Equipment Co.
Jackson Engineering Corp.
Moser Manufacturing Co.
National Supply Co.

Compressors—Air—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Binks Manufacturing Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Continental Supply Co.
Cooper-Bessemer Corp.
Electric Arc Cutting & Welding
Frick-Reid Supply Corp.
Gardner-Denver Co.
Hercules Supply Co.
Hope Engineering Co.
Ingersoll-Rand Co.
International Supply Co.
Leader Iron Works
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Resistcor Engineering Corp.
Schramm, Inc.
Standard Steel Works
Sullivan Machinery Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Co.
Worthington Pump & Machinery Corp.

Compressors—Ammonia—
Cooper-Bessemer Corp.
Gardner-Denver Co.
Hercules Supply Co.
Hope Engineering Co.
Ingersoll-Rand Co.
I. P. Morris & De La Vergne, Inc.
National Supply Co.
Henry Vogt Machine Co.
Worthington Pump & Machinery Corp.

Compressors—Direct Connected—
Allis-Chalmers Mfg. Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Cooper-Bessemer Corp.
Gardner-Denver Co.
Hercules Supply Co.
Hope Engineering Co.
Ingersoll-Rand Co.
Miller Improved Gas Engine Co.
I. P. Morris & De La Vergne, Inc.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Sullivan Machinery Co.
C. J. Tagliabue Mfg. Co.
Worthington Pump & Machinery Corp.

Compressors—Gas—
Allis-Chalmers Mfg. Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Cooper-Bessemer Corp.
Gardner-Denver Co.
Hercules Supply Co.
Hope Engineering Co.
Ingersoll-Rand Co.
Miller Improved Gas Engine Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Sullivan Machinery Co.
Taylor Instrument Co.
Worthington Pump & Machinery Corp.
Young Engine Corp.

Compressors—Gas Engine—
Allis-Chalmers Mfg. Co.
Binks Manufacturing Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Continental Supply Co.
Cooper-Bessemer Corp.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Hercules Supply Co.
Hope Engineering Co.
Ingersoll-Rand Co.
International Supply Co.
Miller Improved Gas Engine Co.
National Supply Co.
National Transit Pump & Machine Co.
Novo Engine Co.
Oil Well Supply Co.
Sullivan Machinery Co.
Worthington Pump & Machinery Corp.

Compressors—Portable—
Binks Manufacturing Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Gardner-Denver Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Leader Iron Works
National Supply Co.
Oil Well Supply Co.
Schramm, Inc.
Sullivan Machinery Co.
Resistcor Engineering Corp.
Worthington Pump & Machinery Corp.

Compressors—Steam—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Gardner-Denver Co.
Hercules Supply Co.
Ingersoll-Rand Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Sullivan Machinery Co.
Worthington Pump & Machinery Corp.

Condenser Boxes—
Alco Products, Inc.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Manufacturing Co.
J. P. Devine Co.
Foster Wheeler Corp.
Gardner-Denver Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
National Supply Co.
North American Car Corp.
Petroleum Iron Works Co.
Pittsburgh-Des-Moines Steel Co.
Sun Shipbuilding & Drydock Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Condensers—
Ajax Iron Works
Alco Products, Inc.
Allis-Chalmers Mfg. Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Chicago Pneumatic Tool Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
General Electric Co.
Griscom-Russell Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Jackson Engineering Corp.
Walter E. Lummus Co.
I. P. Morris & De La Vergne, Inc.
National Supply Co.
Oil Well Supply Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Stacey Engineering Co.
Sun Shipbuilding & Drydock Co.
Western Gas Construction Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Westinghouse Electric & Mfg. Co.
Worthington Pump & Machinery Corp.

Condensers—Jet—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Chicago Pneumatic Tool Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Hercules Supply Co.
Ingersoll-Rand Co.
Walter E. Lummus Co.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.
Worthington Pump & Machinery Corp.

Condensers—Reflux—
Alco Products, Inc.
American Tank & Equipment Corp.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. P. Devine Mfg. Co., Inc.
Foster-Wheeler Corp.
Griscom-Russell Co.
Hercules Supply Co.
Jackson Engineering Corp.
Arthur G. McKee & Co.
Walter E. Lummus Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.

Condensers—Static—
J. P. Devine Co.
Electric Machinery Mfg. Co.
General Electric Co.
Westinghouse Electric & Mfg. Co.

Condensers—Steam—
Alco Products, Inc.
Allegheny Steel Co.
Allis-Chalmers Mfg. Co.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Columbian Steel Tank Co.
J. P. Devine Mfg. Co., Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
National Supply Co.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Westinghouse Electric & Mfg. Co.
Worthington Pump & Machinery Corp.

Condensers—Surface—
Alco Products, Inc.
Allis-Chalmers Mfg. Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Crane Co.
J. P. Devine Co.
Foster Wheeler Corp.
Ingersoll-Rand Co.
Jackson Engineering Corp.
Walter E. Lummus Co.
Southwestern Engineering Corp.
Westinghouse Electric & Mfg. Co.
Worthington Pump & Machinery Corp.

Condensers—Vapor—
Alco Products, Inc.
Allegheny Steel Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Chicago Pneumatic Tool Co.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Jackson Engineering Corp.
Arthur G. McKee & Co.
Walter E. Lummus Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Worthington Pump & Machinery Corp.

Conduit—
Aluminum Co. of America
American Tank & Equipment Corp.
Ayer & Lord Tie Co.
Butler Manufacturing Co.
General Electric Co.
Hercules Supply Co.
Republic Steel Corp.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.
Youngstown Sheet & Tube Co.

Conduit—Pipe—
Aluminum Co. of America
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Butler Manufacturing Co.
General Electric Co.
Hercules Supply Co.
Jones & Laughlin Steel Corp.
Republic Steel Corp.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.
Youngstown Sheet & Tube Co.

Connections—Loading Rack—
Crane Co.
Hercules Supply Co.
MacClatchie Manufacturing Co.
Oil Well Supply Co.

Construction—City Gas Plants—
Southwestern Construction Corp.

Construction—General—
Dresser & Gorton, Inc.
Fluor Corp., Ltd.
International Derrick & Equipment Co.
Leonard Construction Co.
Pittsburgh-Des Moines Steel Co.
Whealton & Townsend, Inc., Ltd.

Construction—Natural Gasoline—
C. F. Braun & Co.
J. A. Campbell Co.
Dresser & Gorton, Inc.
Fluor Corp., Ltd.
Foster Wheeler Corp.
Hope Engineering Co.
Jackson Engineering Corp.
Moser Manufacturing Co.
National Supply Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Whealton & Townsend, Inc., Ltd.

Construction—Piping—
Alco Products, Inc.
J. A. Campbell Co.
Biggs Boiler Works Co.
Chicago Bridge & Iron Works
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Joseph Greenspon's Sons Iron & Steel Co.
Jones & Laughlin Steel Corp.
Linde Air Products Co.
Power Piping Co.
Reading Iron Co.
Whealton & Townsend, Inc., Ltd.

Construction—Refinery—
E. B. Badger & Sons Co.
C. F. Braun & Co.
Chicago Bridge & Iron Works
J. P. Devine Co.
Fluor Corp., Ltd.
Foster Wheeler Corp.
International Derrick & Equipment Co.
M. W. Kellogg Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works Co.
Leonard Construction Co.
Kaw Steel Construction Co.
Walter E. Lummus Co.
Arthur G. McKee & Co.
National Supply Co.
North American Car Corp.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.
Southwestern Engineering Corp.
Whealton & Townsend, Inc., Ltd.
Winkler-Koch Engineering Co.

Construction—Steel Plate—
Alco Products, Inc.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Miles P. Brown Boiler Works
Butler Manufacturing Co.
Chicago Bridge & Iron Works
J. P. Devine Co.
Freeman Manufacturing Co.
Hedges-Walsh-Weidner Co.
International Derrick & Equipment Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works Co.
McClintic-Marshall Co.
North American Car Corp.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Sun Shipbuilding & Drydock Co.
Tulsa Boiler & Machinery Co.
Western Gas Construction Co.
Wyatt Metal & Boiler Works

Contractors—Commissary—
Jacobson Commissary Co.

Contractors—Core Drilling—
E. J. Longyear Co.
Sullivan Machinery Co.

Contractors—Industrial—
Leonard Construction Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.

Contractors—Pipe Line—
Benson & Henderson Pipe Line Construction Co.
Hope Engineering Co.
Henry L. Lemons
Natural Gas Engineering Corp.
Oklahoma Contracting Co.
N. A. Saigh Co.
Southwestern Construction Corp.
Williams Brothers, Inc.

Contractors—Power Plant—
Buda Engine Service Co. of Tulsa
M. W. Kellogg Co.
Freeman Manufacturing Co.
McClintic-Marshall Co.
Moser Manufacturing Co.
Resistcor Engineering Corp.

Controllers—Automatic—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Fisher Governor Co.
Foxboro Co., Inc.
Hanlon-Waters, Inc.
Lincoln Electric Co.
McAlear Manufacturing Co.
Oil Well Supply Co.
C. J. Tagliabue Mfg. Co.
Westinghouse Electric & Mfg. Co.

Controllers—Condensation—
McAlear Manufacturing Co.
C. J. Tagliabue Mfg. Co.

Controllers—Electric Motor—
Allis-Chalmers Mfg. Co.
Louis Allis Co.
Bridgeport Machine Co.
Brown Instrument Co.
General Electric Co.
Lincoln Electric Co.
Lucey Products Corp.
McAlear Manufacturing Co.
C. J. Tagliabue Mfg. Co.
Wagner Electric Corp.
Westinghouse Electric & Mfg. Co.

Controllers—Flow Recorder—
Brown Instrument Co.
Foxboro Co., Inc.
Hercules Supply Co.
Metric Metal Works
National Supply Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Controllers—Gas—
Brown Instrument Co.
Fisher Governor Co.
Foxboro Co., Inc.
Hanlon-Waters, Inc.
McAlear Manufacturing Co.
Metric Metal Works
Moorlane Co., Inc.
National Supply Co.
Pittsburgh Equitable Meter Co.
Regan Forge & Engineering Co.
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Controllers—Heat—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Foxboro Co., Inc.
Hanlon-Waters, Inc.
Moorlane Co., Inc.
National Supply Co.
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Controllers—Liquid Level—
Allis-Chalmers Mfg. Co.
Bristol Co.
Brown Instrument Co.
Chaplin-Fulton Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Fisher Governor Co.
Foxboro Co., Inc.
General Electric Co.
Griscom-Russell Co.
Hanlon-Waters, Inc.
McAlear Manufacturing Co.
Metric Metal Works
Moorlane Co., Inc.
National Supply Co.
Reading Steel Casting Co.
Strong, Carlisle & Hammond Co.
Smith Separator Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Controllers—Pressure—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Fisher Governor Co.
Foxboro Co., Inc.
Hanlon-Waters, Inc.
McAlear Manufacturing Co.
Moorlane Co., Inc.
National Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Controllers—Temperature—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Foxboro Co., Inc.
M. W. Kellogg Co.
National Supply Co.
Edward Soph
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Control—Evaporation—
Southwestern Engineering Corp.

Control Heads—
American Radiator Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Cameron Iron Works, Inc.
Continental Supply Co.
Doheny Stone Drill Co.
Frick-Reid Supply Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kerotest Manufacturing Co.
Lucey Products Corp.
MacClatchie Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Improvements Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Shaffer Tool Works
Southwestern Engineering Corp.

Converters—Synchronous—
Allis-Chalmers Mfg. Co.
General Electric Co.
Westinghouse Electric & Mfg. Co.

Conveyors—Portable Belt—
Buda Engine Service of Tulsa
Link Belt Co.

Coolers—
Alco Products, Inc.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
Foster Wheeler Corp.
Freeman Manufacturing Co.
Griscom-Russell Co.
Hercules Supply Co.
Jackson Engineering Corp.
Kirk-Morrow Iron Works, Inc.

Walter E. Lummus Co.
Oil Well Supply Co.
Petroleum Iron Works Co.
Southwestern Engineering Corp.
Henry Vogt Machine Co.

Coolers—Air—
Alco Products, Inc.
C. F. Braun & Co.
Chicago Pneumatic Tool Co.
Crane Co.
Foster Wheeler Corp.
General Electric Co.
Griscom-Russell Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Jackson Engineering Co.
Oil Well Supply Co.
Henry Vogt Machine Co.

Coolers—Atmosphere—
Alco Products, Inc.
Foster Wheeler Corp.
Griscom-Russell Co.
Jackson Engineering Corp.
Oil Well Supply Co.
Southwestern Engineering Corp.

Coolers—Brine—
Alco Products, Inc.
Crane Co.
C. F. Braun & Co.
Griscom-Russell Co.
Leader Iron Works Co.
I. P. Morris & De La Vergne, Inc.
Oil Well Supply Co.
Henry Vogt Machine Co.

Coolers—Gas—
Alco Products, Inc.
American Radiator Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Griscom-Russell Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Jackson Engineering Corp.
Leader Iron Works Co.
Marley Co.
Arthur G. McKee & Co.
Oil Well Supply Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Western Gas Construction Co.

Coolers—Oil—
Alco Products, Inc.
American Radiator Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
Crane Co.
J. P. Devine Co.
Foster Wheeler Corp.
Griscom-Russell Co.
Hercules Supply Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Leader Iron Works Co.
Walter E. Lummus Co.
Marley Co.
Arthur G. McKee & Co.
Oil Well Supply Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Coolers—Water—
Alco Products, Inc.
American Radiator Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Bridgeport Machine Co.
J. A. Campbell Co.
Continental Supply Co.
Freeman Manufacturing Co.
Frick-Reid Supply Co.
H. P. Gott Mfg. Co., Inc.
Griscom-Russell Co.
Hercules Supply Co.
Jackson Engineering Corp.
Jarecki Manufacturing Co.
Leader Iron Works Co.
Walter E. Lummus Co.
Marley Co.
Oil Well Supply Co.
Petroleum Engineering, Inc.
Republic Supply Co.
Southwestern Engineering Corp.

Cooling Towers—
Allegheny Steel Co.
C. F. Braun & Co.
Miles P. Brown Boiler Works
J. A. Campbell Co.
Fluor Corp., Ltd.
Foster Wheeler Corp.
Jackson Engineering. Co.
Leader Iron Works
Marley Co.
McClintic-Marshall Co.
National Supply Co.
Oil Well Supply Co.
Petroleum Engineering, Inc.
Rapid Fire Prevention Co., Ltd.
Southwestern Engineering Corp.

Copper—Plates and Tubes—
Rapid Fire Prevention Co., Ltd.

Cordage—Manila—
Bridgeport Machine Co.
Columbian Rope Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Plymouth Cordage Co.
Republic Supply Co.
Star Drilling Machine Co.
St. Louis Cordage Mills Co.
Wall Rope Works Co., Inc.

Core Drills—Cable Tool—
Baker Oil Tools, Inc.
Brewster Co., Inc.
Bridgeport Machine Co.
Continental Supply Co.
Elliott Core Drilling Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Star Drilling Machine Co.

Core Drills—Diamond—
Allen-Oliver Co.
Blackor Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
E. J. Longyear Co.
National Supply Co.
Oil Well Supply Co.
Sullivan Machinery Co.

Core Drills—Rotary—
Allen-Oliver Co.
Baker Oil Tools, Inc.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Continental Supply Co.
Doheny Stone Drill Co.
Elliott Core Drilling Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
Hercules Supply Co.
Hughes Tool Co.
Ingersoll-Rand Co.
International Supply Co.
Lucey Products Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Republic Supply Co.
Spengler Tool Co.
Star Drilling Machine Co.

Corrugated Metal—
American Rolling Mill Co.
American Sheet & Tin Plate Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
National Supply Co.
Republic Steel Corp.
Wyatt Metal & Boiler Works
Youngstown Sheet & Tube Co.

Counterbalances—
Allis-Chalmers Mfg. Co.
Baker Oil Tools, Inc.
Bridgeport Machine Co.
California Manufacturing & Engineering Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Countershafts—
Allis-Chalmers Mfg. Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Joseph Reid Gas Engine Co.
Link Belt Co.
Lufkin Foundry & Machine Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Couplings—Flexible—
Allis-Chalmers Mfg. Co.
American Iron & Machine Works Co.
Bartlett Hayward Co.
Chain Belt Co.
Continental Supply Co.
Crane Co.
Dillon Co.
Emsco Derrick & Equipment Co.
Falk Corp.
Foote Brothers Gear & Machine Co.
Gaso Pump & Burner Mfg. Co.
General Electric Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Meriam Co.
Moorlane Co., Inc.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Ottumwa Iron Works
Parkersburg Rig & Reel Co.
Stacey Engineering Co.
Taylor Forge & Pipe Works
Westinghouse Electric & Mfg. Co.

Couplings—Pipe—
Aluminum Co. of America
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Dillon Co.
S. R. Dresser Mfg. Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hanlon-Waters, Inc.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
George B. Limbert & Co.
Lunkenheimer Co.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
William Powell Co.
Reading Iron Co.
Reading Steel Casting Co., Inc.
Republic Steel Corp.
Republic Supply Co.
A. O. Smith Corp.
Smith Separator Co.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Taylor Forge & Pipe Works
Henry Vogt Machine Co.
Walworth Co.
Westinghouse Electric & Mfg. Co.
Youngstown Sheet & Tube Co.

Couplings—Pipe Line—
American Rolling Mill Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Dillon Co.
S. R. Dresser Mfg. Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hanlon-Waters, Inc.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Reading Iron Co.
Reading Steel Casting Co., Inc.
Republic Steel Corp.
Republic Supply Co.
Youngstown Sheet & Tube Co.

Couplings—Pipe Reducing—
Aluminum Co. of America
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Reading Steel Casting Co., Inc.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.
Youngstown Sheet & Tube Co.

Couplings—Pull Rod—
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Supply Co.
Texas Steel Co.

Couplings—Rotary Hose—
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Elliott Manufacturing Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
MacClatchie Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Couplings—Safety Tubing—
Bradford Motor Works, Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Couplings—Shaft—
Allis-Chalmers Mfg. Co.
Chain Belt Co.
Falk Corp.
Foote Bros. Gear & Machine Co.
Gaso Pump & Burner Mfg. Co.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Joseph Reid Gas Engine Co.
Link Belt Co.
Meriam Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Stacey Engineering Co.
Terry Steam Turbine Co.

Couplings—Sucker Rod—
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Supply Co.
Texas Steel Co.

Couplings—Union—
Continental Supply Co.
Crane Co.
E. M. Dart Manufacturing Co.
Dillon Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lunkenheimer Co.
MacClatchie Manufacturing Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Youngstown Sheet & Tube Co.

Covering—Pipe—
Crane Co.
Dearborn Chemical Co.
Eagle-Picher Lead Co.
General Electric Co.
Grinnell Co., Inc.
Hercules Supply Co.
McEveriast, Inc.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Philip Carey Co.
Resistcor Engineering Corp.
Wailes, Dove-Hermiston Corp.

Covers—Gauge Pole—
Hercules Supply Co.
Oil Conservation Engineering Co.
Parkersburg Rig & Reel Co.

Covers—Manhole—
Chicago Bridge & Iron Works
Grinnell Co., Inc.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Oil Conservation Engineering Co.
Parkersburg Rig & Reel Co.
Ross-Meehan Foundries Co.
Tulsa Boiler & Machinery Co.

Cracking Plants—
E. B. Badger & Sons Co.
Foster Wheeler Corp.
M. W. Kellogg Co.
McClintic-Marshall Co.
Petroleum Iron Works Co.
Spengler Tool Co.
A. O. Smith Corp.
Tulsa Boiler & Machinery Co.
Winkler-Koch Engineering Co.

Cracking Plants—Liquid Phase—
Foster Wheeler Corp.
J. P. Devine Mfg. Co., Inc.
M. W. Kellogg Co.
McClintic-Marshall Co.
A. O. Smith Corp.
Winkler-Koch Engineering Co.

Cracking Plants—Vapor Phase—
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
M. W. Kellogg Co.
McClintic-Marshall Co.
A. O. Smith Corp.
Winkler-Koch Engineering Co.

Cranes—Backfillers—
Allsteel Products Mfg. Co., Inc.
American Tank & Equipment Corp.
Baash-Ross Tool Co.
Buckeye Traction Ditcher Co.
Byers Machine Co.
Frick-Reid Supply Corp.
Link Belt Co.
Northwest Engineering Co.
National Equipment Corp.
Resistcor Engineering Corp.
W-K-M Co.

Cranes—Derrick—
Bridgeport Machine Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Northwest Engineering Co.
Oil Well Supply Co.
Resistcor Engineering Corp.
Spang & Co.
Sterling Steel Casting Co.
W-K-M Co., Inc.

Cranes—Locomotive—
Hercules Supply Co.
Link Belt Co.
Northwest Engineering Co.
Resistcor Engineering Corp.

Cranes—Motor Truck—
Baash-Ross Tool Co.
Hercules Supply Co.
National Supply Co.
Resistcor Engineering Corp.

Cranes—Tractor—
Link Belt Co.
Resistcor Engineering Corp.
Trackson Co.

Cranes—Traveling—
Baash-Ross Tool Co.
Dresser & Gorton, Inc.
Goslin-Birmingham Mfg. Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
D. S. Mair Machinery Corp.
Murray Tool & Supply Co.
National Equipment Corp.
North American Car Corp.
Norvell-Wilder Supply Co.
Wright Manufacturing Co.

Cranks—Counterbalance—
Lufkin Foundry & Machine Co.

Crawler—Tractor—
Caterpillar Tractor Co.
Resistcor Engineering Corp.
Trackson Co.
W-K-M Co.

Crawler Wheels—For Wagons—
Athey Truss Wheel Co.
Trackson Co.

Cross Arms—
Ayer & Lord Tie Co.
Consolidated Ashcroft-Hancock Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.

Crosses—Forged Steel—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Elliott Manufacturing Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Supply Co.
Kerotest Manufacturing Co.
Murray Tool & Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Shaffer Tool Works
Walworth Co.
Watson-Stillman Co.
Westcott Valve Co.

Crystallizers—
Hedges-Walsh-Weidner Co.
McClintic-Marshall Co.

Cup Grease—
Bridgeport Machine Co.
Continental Supply Co.
Dearborn Chemical Co.
Joseph Dixon Crucible Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Humble Oil & Refining Co.
International Supply Co.
Jarecki Manufacturing Co.
Magnolia Petroleum Co.
Ohio Injector Co.
Oil Well Supply Co.
Pure Oil Co.
Republic Supply Co.
Shell Petroleum Corp.
Sinclair Refining Co.

Cups—Grease—
Consolidated Ashcroft Hancock Co.
Crane Co.
Jarecki Manufacturing Co.
Link Belt Co.
Ohio Injector Co.
Penberthy Injector Co.
William Powell Co.
Standard Steel Works
Walworth Co.

Cups—Valve—
Bridgeport Machine Co.
Continental Supply Co.
Darling Valve & Mfg. Co.
Economy Pump & Oil Tool Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
E. M. Smith Co.

Cuttings and Welding Equipment
Electric Arc Cutting & Welding Co.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
Linde Air Products Co.
D. S. Mair Machinery Corp.
Resistcor Engineering Corp.
Victor Welding Equipment Co.
Wilson Welder & Metals Co., Inc.

Cutters—Casing, Inside—
Acme Fishing Tool Co.
Allen-Oliver Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Doheny Stone Drill Co.
Hercules Supply Co.
International Supply Co.
LeBus Rotary Tool Works
National Supply Co.
Oil Well Supply Co.
Oxweld Acetylene Co.

Cutters—Pipe—
Allen-Oliver Co.
Baash-Ross Tool Co.
Bignall & Keeler Machine Works
Continental Supply Co.
Crane Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Landis Machine Co., Inc.
LeBus Rotary Tool Works
George B. Limbert & Co.
D. S. Mair Machinery Corp.
Murray Tool & Supply Co.
National Supply Co.
Northwest Engineering Co.
Norvell-Wilder Supply Co.
Nye Tool & Machine Works
Oil Well Supply Co.
Republic Supply Co.
Toledo Pipe Threading Machine Co.

Cylinder Reboring—
Brauer Machine & Supply Co.
Frick-Reid Supply Corp.
Hopper Machine Works, Inc.
Joseph Reid Gas Engine Co.
Murray Tool & Supply Co.
Union Machine Co.

Cylinders—Gas Containers—
Biggs Boiler Works Co.
Chicago Bridge & Iron Works
Harrisburg Pipe & Pipe Bending Co.
Linde Air Products Co.
National Tube Co.

Cylinder Stocks—
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.

D

Dampproofing—
Headley Emulsified Products Co.

Decks—Bubble—
Alco Products, Inc.
Black, Sivalls & Bryson, Inc.
Jackson Engineering Corp.
Kaw Steel Construction Co.
M. W. Kellogg Co.
McClintic-Marshall Co.
Oil Conservation Engineering Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Winkler-Koch Engineering Co.

Dephlegmators—
Alco Products, Inc.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Butler Manufacturing Co.
J. A. Campbell Co.
Griscom-Russell Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
McClintic-Marshall Co.
National Tube Co.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.

Derrick Bases—
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
O'Brien Steel Construction Co., Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Derricks—Pole—
Emsco Derrick & Equipment Co.
Hercules Supply Co.
Moser Manufacturing Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Derricks—Steel—
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
McClintic-Marshall Co.
Lee C. Moore & Co., Inc.
National Supply Co.
O'Brien Steel Construction Co., Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Stork Engineering Co.

Derricks—Steel, Tubular—
Hercules Supply Co.
International Supply Co.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Wertzberger Derrick Co.

Derricks—Turnbuckle—
Hercules Supply Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.

Derricks—Wood—
Frick-Reid Supply Corp.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Wertzberger Derrick Co.

Diamonds—Core Drilling—
Oil Well Supply Co.
R. S. Patrick

Die Nipple—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
LeBus Rotary Tool Works
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Spang & Co.
Vickers Machine Co.

Dies—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Byron Jackson Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Walworth Co.

Dies—Bolt Threading—
Bignall & Keeler Machine Works
Landis Machine Co.
D. S. Mair Machinery Corp.

Dies—Pipe Threading—
Armstrong Bros. Tool Co.
Bignall & Keeler Machine Works
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Landis Machine Co.
George B. Limbert & Co.
D. S. Mair Machinery Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Northwest Engineering Co.
Nye Tool & Machine Works
Oil Well Supply Co.
Republic Supply Co.
Toledo Pipe Threading Machine Co.
Walworth Co.

Diesel—Engines—
Allis-Chalmers Mfg. Co.
Paul Arbon & Co.
Buda Engine Service Co. of Tulsa
Chicago Pneumatic Tool Co.
Climax Engineering Co.
Continental Supply Co.
Cooper-Bessemer Corp.
Franklin Valveless Engine Co.
Fulton Iron Works Co.
Guiberson Corp.
Hercules Supply Co.
Hope Engineering Co.
Ingersoll Rand Co.
McIntosh & Seymour Corp.
I. P. Morris & De La Vergne, Inc.
National Supply Co.
Norvell Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Joseph Reid Gas Engine Co.
Waukesha Motor Co.
Westinghouse Electric & Mfg. Co.
Worthington Pump & Machinery Corp.

Discs—Valve—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
B. F. Goodrich Rubber Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
William Powell Co.
Reading Steel Casting Co., Inc.
Victor Balata & Textile Belting Co.
Walworth Co.

Distillates—
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Shell Petroleum Corp.
Sinclair Refining Co.
Skelly Oil Co.
White Oak Refining Co.

Ditchers—Pipe Line—
Barber-Greene Co.
Buckeye Traction Ditcher Co.
Buda Engine Service Co. of Tulsa
Byers Machine Co.
Clark Brothers Co.
Hercules Supply Co.
National Equipment Corp.
Northwest Engineering Co.
Reading Iron Co.
Resistcor Engineering Corp.

Draftsman's Supplies—
Joseph Dixon Crucible Co.
Hercules Supply Co.

Drag Lines—
Byers Machine Co.
Link Belt Co.
National Equipment Corp.
Northwest Engineering Co.

Drawworks—
Allsteel Products Mfg. Co., Inc.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Titusville Iron Works Co.

Dressing—Belts—
Bridgeport Machine Co.
Continental Supply Co.
Joseph Dixon Crucible Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Marion Machine Foundry & National Supply Co.
Norvell-Wilder Supply Co. Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Victor Balata & Textile Belting Co.

Dressing Bit—
Beaumont Iron Works Co.
Doheny Stone Drill Co.
Hopper Machine Works, Inc.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works

Driers—
Freeman Manufacturing Co.
Kirk-Morrow Iron Works, Inc.

Drilling and Fishing Tools—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Charles A. Butler Mfg. Co.
Byron Jackson Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
Hopper Machine Works, Inc.
Hughes Tool Co.
International Derrick & Equipment Co.
International Supply Co.
LeBus Rotary Tool Works
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Republic Supply Co.
Star Drilling Machine Co.
Spang & Co.

Drilling Equipment—
Acme Fishing Tool Co.
Allis-Chalmers Mfg. Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hughes Tool Co.
Ingersoll-Rand Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
MacClatchie Manufacturing Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Patterson-Ballagh Corp.
Regan Forge & Engineering Co.
Sheldon Machinery Corp.
Spang & Co.
Spengler Tool Co.
Star Drilling Machine Co.
Sullivan Machinery Co.
Titusville Iron Works Co.
Westinghouse Electric & Mfg. Co.

Drilling Fronts—
Emsco Derrick & Equipment Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
O'Brien Steel Construction Co., Inc.
Parkersburg Rig & Reel Co.
Wertzberger Derrick Co.

Drilling Machines—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Ingersoll-Rand Co.
International Derrick & Equipment Co.
International Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Star Drilling Machine Co.
Sullivan Machinery Co.

Drills—Portable—Air—
Chicago Pneumatic Tool Co.
Dresser & Gorton, Inc.
Gardner-Denver Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Resistcor Engineering Corp.
Sullivan Machinery Co.

Drills—Portable—Electric—
Chicago Pneumatic Tool Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Drills—Rock—
Chicago Pneumatic Tool Co.
Gardner-Denver Co.
Hercules Supply Co.
Hughes Tool Co.
Ingersoll-Rand Co.
Jarecki Manufacturing Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Resistcor Engineering Corp.
Schramm, Inc.
Spengler Tool Co.
Star Drilling Machine Co.
Sullivan Machinery Co.

Drives—Rope—
Allis-Chalmers Mfg. Co.
Continental Supply Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Oil Well Supply Co.
Plymouth Cordage Co.

Drives—Slack Belt—
Hercules Supply Co.
Oil Well Supply Co.

Drive Shoes—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Cameron Iron Works, Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hopper Machine Works, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Drives—V-Belt—
Allis-Chalmers Mfg. Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Buda Engine Service Co. of Tulsa
Continental Supply Co.
Dayton Rubber Mfg. Co.
Emsco Derrick & Equipment Co.
Gasc Pump & Burner Mfg. Co.
Gates Rubber Co.
B. F. Goodrich Rubber Co.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Wagner Electric Corp.
Worthington Pump & Machinery Corp.

Drops and Seats—
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Drums—
Columbian Steel Tank
Hercules Supply Co.
Oil Well Supply Co.
Petroleum Iron Works Co.

Dynamometers—
General Electric Co.
Hercules Supply Co.
International Derrick & Equipment Co.
National Supply Co.
Westinghouse Electric & Mfg. Co.

Dynamometers—Pumping—
Martin-Decker Corp.
Westinghouse Electric & Mfg. Co.

Dynamos—
Louis Allis Co.
Allis-Chalmers Mfg. Co.
Continental Supply Co.
General Electric Co.
Hercules Supply Co.
Jarecki Manufacturing Co.
Moon Manufacturing Co.
Norvell-Wilder Supply Co.

E

Economizers—Fuel—
Alco Products, Inc.
Butler Mfg. Co.
Cooper-Bessemer Corp.
Foster Wheeler Corp.

Ejectors—Air—
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Foster Wheeler Corp.
Hercules Supply Co.
Lufkin Foundry & Machine Co.
Penberthy Injector Co.
Westinghouse Electric & Mfg. Co.
Worthington Pump & Machinery Corp.

Ejectors—Steam, Jet, Air—
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Duriron Co.
Foster Wheeler Corp.
Hercules Supply Co.
Lufkin Foundry & Machine Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Penberthy Injector Co.
Westinghouse Electric & Mfg. Co.
Worthington Pump & Machinery Corp.

Electric Drilling Equipment—
Allis-Chalmers Mfg. Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Hercules Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Westinghouse Electric & Mfg. Co.

Electric Power Companies—
Gulf States Utilities Co.
Oklahoma Gas & Electric Co.
Public Service Co. of Oklahoma
Texas Electric Service Co.
West Texas Utilities Co.

Electrical Contractors—
Westinghouse Electric & Mfg. Co.

Electrical Engineers—
American Steel & Wire Co.
General Electric Co.
Westinghouse Electric & Mfg. Co.

Electrical Equipment—
Louis Allis Co.
Allis-Chalmers Mfg. Co.
Bridgeport Machine Co.
Consolidated Ashcroft Hancock Co., Inc.
General Electric Co.
Hercules Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
United American Bosch Corp.
Westinghouse Electric & Mfg. Co.

Electrodes—
American Rolling Mill Co.
Duriron Co.
Electric Arc Cutting & Welding Co.
General Electric Co.
Lincoln Electric Co.
Norvell-Wilder Supply Co.
Westinghouse Electric & Mfg. Co.

Elevators—Casing and Tubing—
Acme Fishing Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Charles A. Butler Mfg. Co.
Byron Jackson Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Guiberson Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Resistcor Engineering Corp.
Standard Steel Works

Elevators—Sucker Rod—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Guiberson Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.

Emulsions—Asphalt—
Headley Emulsified Products Co.

Emulsifiers—
Headley Emulsified Products Co.

Enamels—
Barrett Co.
Continental Supply Co.
E. I. Du Pont de Nemours & Co., Inc.
General Paint Corp.
Hercules Supply Co.
McEverlast, Inc.
Pure Oil Co.
Republic Supply Co.
Wailes, Dove-Hermiston Corp.
Westinghouse Electric & Mfg. Co.

Engineers—Consulting—
Black, Sivalls & Bryson, Inc.
J. A. Campbell Co.
J. P. Devine Mfg. Co., Inc.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hope Engineering Co.
International Derrick & Equipment Co.
Jackson Engineering Co.
Walter E. Lummus Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.
National Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Engineering, Inc.
Reading Iron Co.
Southwestern Engineering Corp.
Union Machine Co.
Westinghouse Electric & Mfg. Co.
Winkler-Koch Engineering Co.

Engineers—Construction—
E. B. Badger & Sons Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
J. P. Devine Mfg. Co., Inc.
Dresser & Gorton, Inc.

Fluor Corp., Ltd.
Frick-Reid Supply Corp.
Hope Engineering Co.
International Derrick & Equipment Co.
Jackson Engineering Co.
Leader Iron Works, Inc.
Leonard Construction Co.
Walter E. Lummus Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.
Moser Manufacturing Co.
Parkersburg Rig & Reel Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Whealton & Townsend, Inc., Ltd.
Winkler-Koch Engineering Co.

Engineers—Designing—
Alco Products, Inc.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
J. A. Campbell Co.
J. P. Devine Mfg. Co., Inc.
Dresser & Gorton, Inc.
Fluor Corp., Ltd.
Hope Engineering Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
Leonard Construction Co.
Walter E. Lummus Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.
Moser Manufacturing Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Engineering, Inc.
Reading Iron Co.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Westinghouse Electric & Mfg. Co.
Whealton & Townsend, Inc., Ltd.
Winkler-Koch Engineering Co.

Engineers—Electrical—
General Electric Co.
International Derrick & Equipment Co.
Westinghouse Electric & Mfg. Co.

Engineers—Fire Protection—
Grinnell Co., Inc.

Engineers—Industrial Piping—
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
M. W. Kellogg Co.
Reading Iron Co.

Engineers—Oil Building—
E. B. Badger & Sons Co.
Black, Sivalls & Bryson, Inc.
International Derrick & Equipment Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.

Engineers—Oil Treating—
Black, Sivalls & Bryson, Inc.
Westinghouse Electric & Mfg. Co.
Winkler-Koch Engineering Co.

Engines—Crude Oil—
Allis-Chalmers Mfg. Co.
Chicago Pneumatic Tool Co.
Continental Supply Co.
Fulton Iron Works Co.
Hercules Supply Co.
Ingersoll-Rand Co.
I. P. Morris & De La Vergne, Inc.
National Supply Co.
Reading Iron Co.
Joseph Reid Gas Engine Co.
Worthington Pump & Machinery Corp.

Engines—Diesel—
Allis-Chalmers Mfg. Co.
Paul Arbon & Co
Buda Engine Service Co. of Tulsa
Chicago Pneumatic Tool Co.
Climax Engineering Co.
Continental Supply Co.
Cooper-Bessemer Corp.
Franklin Valveless Engine Co.
Fulton Iron Works Co.
Guilberson Corp.
Hope Engineering Co.
Hercules Supply Co.
Ingersoll-Rand Co.
McIntosh & Seymour Corp.
I. P. Morris & De La Vergne, Inc.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Joseph Reid Gas Engine Co.
Waukesha Motor Co.
Westinghouse Electric & Mfg. Co.
Worthington Pump & Machinery Corp.

Engines—Drilling—
Ajax Iron Works
Beaumont Iron Works Co.
Bridgeport Machine Co.
Buda Engine Service Co. of Tulsa
Clark Brothers Co.
Climax Engineering Co.
Cooper-Bessemer Corp.
Continental Supply Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Corp.
Fulton Iron Works Co.
Gardner-Denver Co.
Hercules Motors Corp.
Hercules Supply Co.
Hughes Tool Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Joseph Reid Gas Engine Co.
Republic Supply Co.
Star Drilling Machine Co.
Titusville Iron Works Co.
Waukesha Motor Co.
Wright Machine Co.
Young Engine Corp.

Engines—Gas—
Allis-Chalmers Mfg. Co.
Bridgeport Machine Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Climax Engineering Co.
Cooper-Bessemer Corp.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Corp.
Fulton Iron Works Co.
Hercules Motors Corp.
Hercules Supply Co.
Hope Engineering Co.
Ingersoll-Rand Co.
International Derrick & Equipment Co.
International Supply Co.
Marion Machine Foundry & Supply Co.
Meriam Co.
Miller Improved Gas Engine Co.
Moser Manufacturing Co.
National Supply Co.
National Transit Pump & Machine Co.
Novo Engine Co.
Oil Well Supply Co.
Reading Iron Co.
Joseph Reid Gas Engine Co.
Republic Supply Co.
Titusville Iron Works Co.
Waukesha Motor Co.
Wright Machine Co.
Worthington Pump & Machinery Corp.

Engines—Gasoline—
Bridgeport Machine Co.
Clark Brothers Co.
Climax Engineering Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Fulton Iron Works Co.
Hercules Motors Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Harvester Co. of America
International Supply Co.
Jackson Engineering Co.
Lufkin Foundry & Machine Co.
Moser Manufacturing Co.
National Supply Co.
Norvell-Wilder Supply Co.
Novo Engine Co.
Oil Well Supply Co.
Reading Iron Co.
Joseph Reid Gas Engine Co.
Resistcor Engineering Corp.
Star Drilling Machine Co.
Waukesha Motor Co.
Wright Machine Co.

Engines—Oil—
Allis-Chalmers Mfg. Co.
Chicago Pneumatic Tool Co.
Cooper-Bessemer Corp.
Continental Supply Co.
Franklin Valveless Engine Co.
Fulton Iron Works Co.
Hope Engineering Co.
Hercules Supply Co.
Ingersoll-Rand Co.
International Derrick & Equipment Co.
International Harvester Co. of America
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Joseph Reid Gas Engine Co.
Worthington Pump & Machinery Corp.

Engines—Pumping—
Allis-Chalmers Mfg. Co.
Ajax Iron Works
Bridgeport Machine Co.
Clark Brothers Co.
Climax Engineering Co.
Cooper-Bessemer Corp.
Continental Supply Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Corp.
Fulton Iron Works Co.
Hercules Motors Corp.
Hercules Supply Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
I. P. Morris & De La Vergne, Inc.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Reading Iron Co.
Joseph Reid Gas Engine Co.
Titusville Iron Works Co.
Waukesha Motor Co.
Worthington Pump & Machinery Corp.

Engines—Semi-Diesel—
Chicago Pneumatic Tool Co.
Cooper-Bessemer Corp.
Franklin Valveless Engine Co.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Reading Iron Co.

Engines—Steam—
Ajax Iron Works
Allis-Chalmers Mfg. Co.
Bridgeport Machine Co.
Buda Engine Service Co. of Tulsa
Continental Supply Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
National Transit Pump & Machine Co.
National Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Supply Co.
Titusville Iron Works Co.
Wilson-Snyder Mfg. Corp.

Equalisers—Rand Wheel—
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Equalizers—Crank—
Continental Supply Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Equipment—Drilling—
Acme Fishing Tool Co.
Allis-Chalmers Mfg. Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Byron Jackson Co.
Climax Engineering Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hughes Tool Co.
Ingersoll-Rand Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
MacClatchie Manufacturing Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Regan Forge & Engineering Co.
Joseph Reid Gas Engine Co.
Republic Supply Co.
Spang & Co.
Star Drilling Machine Co.
Victor Balata & Textile Belting Co.
Waukesha Motor Co.

Equipment—Pumping—
Acme Fishing Tool Co.
Allis-Chalmers Mfg. Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Byron Jackson Co.
Climax Engineering Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Charles N. Hough Mfg. Co.
Hercules Motor Corp.
Hercules Supply Co.
Hills-McCanna Co.
Ingersoll-Rand Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Link Belt Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
J. H. McEvoy & Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Petroleum Equipment Co. of Texas, Inc.
Joseph Reid Gas Engine Co.
Republic Supply Co.
Texas Electric Service Co.
Victor Balata and Textile Belting Co.
Waukesha Motor Co.
Worthington Pump & Machinery Corp.

Evaporators—
Alco Products, Inc.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
J. A. Campbell Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Tube Co.
Petroleum Iron Works Co.
Tulsa Boiler & Machinery Co.
Southwestern Engineering Corp.
Sun Shipbuilding & Drydock Co.

Evaporators and Chemical Machinery—
Alco Products, Inc.
E. B. Badger & Sons Co.
J. P. Devine Mfg. Co., Inc.
Goslin-Birmingham Mfg. Co., Inc.
Hedges-Walsh-Weidner Co.
Leader Iron Works, Inc.
D. S. Mair Machinery Corp.

Exchangers—Liquid Heat—
Allegheny Steel Co.
Biggs Boiler Works Co.
C. F. Braun & Co.
J. A. Campbell Co.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Hedges-Walsh-Weidner Co.
Jackson Engineering Co.
M. W. Kellogg Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Walter E. Lummus Co.
Arthur G. McKee & Co.
Petroleum Engineers, Inc.
Southwestern Engineering Corp.
Superheater Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Exchangers—Vapor Heat—
Alco Products, Inc.
Allegheny Steel Co.
Biggs Boiler Works Co.
C. F. Braun & Co.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Hedges-Walsh-Weidner Co.
Jackson Engineering Co.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Walter E. Lummus Co.
Arthur G. McKee & Co.
Petroleum Engineers, Inc.
Southwestern Engineering Corp.
Superheater Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Exhaust Pipe and Pits—
Crane Co.
Midwest Piping & Supply Co., Inc.
I. P. Morris & De La Vergne, Inc.

Exhausters—Gas—
General Electric Co.
Ingersoll-Rand Co.
Stacey Engineering Co.

Exhausters—Steam Jet—
Coppus Engineering Corp.
Crane Co.
Foster Wheeler Corp.

Expanders—Tube—
C. F. Braun & Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Key Boiler Equipment Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Tulsa Boiler & Machinery Co.

Extinguishers—Fire—
American LaFrance & Foamite Corp.
Continental Supply Co.
Frick-Reid Supply Corp.
General Manufacturing Co.
Grinnell Co., Inc.
Hercules Tool Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.

Extractors—Core—
Baker Oil Tools, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Grinnell Co., Inc.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.

Extractors—Grease—
C. F. Braun & Co.
Griscom-Russell Co.
Hercules Supply Co.
McAlear Mfg. Co.
Tulsa Boiler & Machinery Co.

Extractors—Mist—
C. F. Braun Co.
J. A. Campbell Co.
Hedges-Walsh-Weidner Co.
Moorlane Co., Inc.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.

F

Facings—Clutch—
Beaumont Iron Works Co.
Jno. Muller Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Fans—Electric—
Allen Corp.
Binks Manufacturing Co.
Coppus Engineering Corp.
General Electric Co.
Hercules Supply Co.
Oil Well Supply Co.
Wagner Electric Corp.
Westinghouse Electric & Mfg. Co.

Fans—Recirculating—
Allegheny Steel Co.
Coppus Engineering Corp.
Hercules Supply Co.

Fans—Steam Turbine—
Moon Manufacturing Co.
Westinghouse Electric & Mfg. Co.

Fans—Ventilating—
Air Preheater Corp.
Allen Corp.
Binks Manufacturing Co.
Coppus Engineering Corp.
Duriron Co.
General Electric Co.
Hercules Supply Co.
Oil Well Supply Co.
Wagner Electric Corp.
Westinghouse Electric & Mfg. Co.

Faucets—
Columbian Steel Tank Co.
Crane Co.
Hercules Supply Co.
Oil Well Supply Co.
Standard Steel Works
Walworth Co.

Feed Water Pumps—
Allis-Chalmers Mfg. Co.
Brauer Machine & Supply Co.
Chaplin-Fulton Mfg. Co.
Coppus Engineering Corp.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Lucey Products Corp.
Moorlane Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
National Transit & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Feed Water Regulators—
Brauer Machine & Supply Co.
Chaplin-Fulton Mfg. Co.
Crane Co.
Fisher Governor Co.
Hercules Supply Co.
International Supply Co.
Oil Well Supply Co.
MacClatchie Manufacturing Co.
Moorlane Co., Inc.
Strong, Carlisle & Hammond Co.

Feeders—Chemical—
Continental Supply Co.
Dearborn Chemical Co.
Duriron Co.
Hills-McCanna Co.
McAlear Mfg. Co.
Edward Soph

Feeders—Water—
Griscom-Russell Co.
McAlear Mfg. Co.
Walworth Co.

Felt—Asbestos for Pipe Covering
Barrett Co.
Hercules Supply Co.
National Supply Co.

Fence—
Anchor Post Fence Co.
Dresser & Gorton, Inc.
Hercules Supply Co.
Norvell-Wilder Supply Co.
Page Fence Association.
Page Steel & Wire Co.
Wickwire Spencer Steel Co.

Filters—Barrel—
Hercules Supply Co.
Petroleum Equipment Co. of Texas, Inc.

Filter Clay—
Hercules Supply Co.

Filter—Cloth—
Oliver United Filters, Inc.

Filter—Cloth—Monel—
Oliver United Filters, Inc.

Filter—Screen—
Oliver United Filters, Inc.

Filters—Air—
Continental Supply Co.
Frick-Reid Supply Corp.
Goslin-Birmingham Mfg. Co., Inc.
Hanlon-Waters, Inc.
Hercules Supply Co.
National Supply Co.

Filters—Clarification—
Oliver United Filters, Inc.

Filters—Contact—
Goslin-Birmingham Mfg. Co., Inc.
D. S. Mair Machinery Corp.
Oliver United Filters, Inc.
Henry Vogt Machine Co.

Filters—Continuous—
Oliver United Filters, Inc.

Filters—Cracked Residuum—
Oliver United Filters, Inc.

Filters—Dust—
Goslin-Birmingham Mfg. Co., Inc.
Hanlon-Waters, Inc.
D. S. Mair Machinery Corp.

Filters—Emulsion Breaking—
Oliver United Filters, Inc.

Filters—Fuel Oil—
Oliver United Filters, Inc.

Filters—Gas—
Biggs Boiler Works Co.
Miles P. Brown Boiler Works
Goslin-Birmingham Mfg. Co., Inc.
Hercules Supply Co.
Metric Metal Works
National Supply Co.

Filters—Gasoline—
Biggs Boiler Works Co.
Miles P. Brown Boiler Works
Gilbert & Barker Mfg. Co.
Goslin-Birmingham Mfg. Co., Inc.
Hercules Supply Co.
Kaw Steel Construction Co.
Arthur G. McKee & Co.
Oliver United Filters, Inc.
Southwestern Engineering Corp.

Filters—Oil—
Biggs Boiler Works Co.
Miles P. Brown Boiler Works
Continental Supply Co.
Frick-Reid Supply Corp.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Kaw Steel Construction Co.
D. S. Mair Machinery Corp.
Arthur G. McKee & Co.
I. P. Morris & De La Vergne, Inc.
Oliver United Filters, Inc.
Henry Vogt Machine Co.

Filters—Pressure—
Biggs Boiler Works Co.
Goslin-Birmingham Mfg. Co., Inc.
Arthur G. McKee & Co.
Oliver United Filters, Inc.
Henry Vogt Machine Co.

Filters—Rotary—
Oliver United Filters, Inc.

Filters—Salt—
Oliver United Filters, Inc.

Filters—Vacuum—
Oliver United Filters, Inc.

Filters—Water—
Biggs Boiler Works Co.
Goslin-Birmingham Mfg. Co., Inc.
Hercules Supply Co.

Fire Clay—
Bridgeport Machine Co.
Hercules Supply Co.
International Supply Co.
Luftkin Foundry & Machine Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.

Fire Doors—
Miles P. Brown Boiler Works
International Derrick & Equipment Co.
Marion Machine Foundry & Supply Co.
Standard Steel Works

Fire Escapes—
Miles P. Brown Boiler Works
International Derrick & Equipment Co.

Fire Extinguishers—
American LaFrance & Foamite Corp.
Continental Oil Co.
Frick-Reid Supply Corp.
General Manufacturing Co.
Grinnell Co., Inc.
National Supply Co.
Oil Conservation Engineering Co.

Fire-Fighting Equipment—
American LaFrance & Foamite Corp.
Continental Supply Co.
General Manufacturing Co.
Worthington Pump & Machinery Corp.

Fire Prevention Equipment—
Rapid Fire Prevention Co., Ltd.

Fishing Tools—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Beaumont Iron Works Co.
Blackor Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Larkin & Co.
LeBus Rotary Tool Works
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Republic Supply Co.
Shaffer Tool Works
Spang & Co.

Fittings—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Nickel Co., Inc.
International Supply Co.
Kennedy Valve Mfg. Co.
Lucey Products Corp.
Lunkenheimer Co.
Marion Machine Foundry & Supply Co.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Ross-Meehan Foundries Co.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Tube Turns, Inc.
Walworth Co.
Westcott Valve Co.

Fittings—Acid—
Beaumont Iron Works Co.
Continental Supply Co.
Crane Co.
Duriron Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
Hills-McCanna Co.
Jarecki Manufacturing Co.
Midwest Piping & Supply Co., Inc.
National Lead Co.
National Supply Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Ross-Meehan Foundries Co.
Edward Soph
Walworth Co.
Westcott Valve Co.

Fittings—Ammonia—
Beaumont Iron Works Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
I. P. Morris & De La Vergne, Inc.
National Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Ross-Meehan Foundries Co.
Henry Vogt Machine Co.

Fittings—Cast Iron—
Beaumont Iron Works Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Lufkin Foundry & Machine Co.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Power Piping Co.
Republic Supply Co.
Ross-Meehan Foundries Co.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Taylor Forge & Pipe Works
Union Machine Co.
Henry Vogt Machine Co.
Walworth Co.
Watson Stillman Co.

Fittings—Cast Iron and Semisteel—
Moser Manufacturing Co.

Fittings—Dropped Forged Steel—
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Hanlon-Waters, Inc.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Kerotest Manufacturing Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co.
Republic Supply Co.
Henry Vogt Machine Co.
Walworth Co.
Watson Stillman Co.

Fittings—High Pressure—
Alco Tool Co., Ltd.
Baash-Ross Tool Co., Inc.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Jarecki Manufacturing Co.
Kerotest Manufacturing Co.
Lufkin Foundry & Machine Co.
George B. Limbert & Co.
Lucey Products Corp.
MacClatchie Manufacturing Co.
Midwest Piping & Supply Co., Inc.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Power Piping Co.
Reading Steel Casting Co., Inc.
Ross-Meehan Foundries Co.
Shaffer Tool Works
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.
Watson Stillman Co.
Westcott Valve Co.

Fittings—Malleable and Cast Iron—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Grinnell Co., Inc.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Ross-Meehan Foundries Co.
Stockham Pipe & Fittings Co.
Walworth Co.
Watson Stillman Co.
Westinghouse Electric & Mfg. Co.

Fittings—Orifice—
Continental Supply Co.
Crane Co.
Metric Metal Works
Moorlane Co., Inc.
Robinson Orifice Fittings Co.
Oil Well Supply Co.

Fittings—Pipe—
Beaumont Iron Works Co.
Bridgeport Machine Co.
A. M. Byers Co.
Byron Jackson Co.
Continental Supply Co.
Crane Co.
S. R. Dresser Mfg. Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Grinnell Co., Inc.
Hercules Supply Co.
Houston Car Wheel & Machine Co.
Hughes Tool Co.
International Supply Co.
Jarecki Manufacturing Co.
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Lunkenheimer Co.
Marion Machine Foundry & Supply Co.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Power Piping Co.
Reading Iron Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Standard Steel Works
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Taylor Forge & Pipe Works
Henry Vogt Machine Co.
Youngstown Sheet & Tube Co.
Walworth Co.

Fittings—Special—
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Continental Supply Co.
Crane Co.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
Jarecki Manufacturing Co.
Kerotest Manufacturing Co.
George B. Limbert & Co.
Lucey Products Corp.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Reading Steel Casting Co., Inc.
Ross-Meehan Foundries Co.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Watson Stillman Co.
Westcott Valve Co.
Westinghouse Electric & Mfg. Co.

Fittings—Steel—
Alco Tool Co., Ltd.
Beaumont Iron Works Co.
Brewster Co., Inc.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hanlon-Waters, Inc.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Kerotest Manufacturing Co.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co.
Republic Supply Co.
Ross-Meehan Foundries Co.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Taylor Forge & Pipe Works
Henry Vogt Machine Co.
Walworth Co.
Westcott Valve Co.

Fittings—Still—
Brewster Co., Inc.
Continental Supply Co.
Crane Co.
Hercules Supply Co.
Hills-McCanna Co.
Key Boiler Equipment Co.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Tulsa Boiler & Machinery Co.

Fittings—Tank—
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Continental Supply Co.
Crane Co.
Duriron Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Jarecki Manufacturing Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
National Lead Co.
National Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.
Walworth Co.

Fittings—Tank Car—
Brewster Co., Inc.
Crane Co.
Frick-Reid Supply Corp.
General American Tank Car Corp.
Hercules Supply Co.
Hills-McCanna Co.
Marsh Gauge Pole Co., Inc.
National Transit Pump & Machine Co.
National Lead Co.
North American Tank Car Corp.
Oil Well Supply Co.
Petroleum Iron Works Co.
Pressed Steel Car Co.
Walworth Co.

Fittings—Union—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
E. M. Dart Manufacturing Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Grinnell Co., Inc.
Hercules Supply Co.
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Lunkenheimer Co.
MacClatchie Manufacturing Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.
Youngstown Sheet & Tube Co.

Fittings—Welded—
Continental Supply Co.
Brewster Co., Inc.
Crane Co.
Grinnell Co., Inc.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
Oil Well Supply Co.
Taylor Forge & Pipe Works
Tube Turns, Inc.
Henry Vogt Machine Co.

Flame-Arrestors—
Chicago Bridge & Iron Works
Oil Conservation Engineering Co.
Westcott & Greis, Inc.

Flanges—Brass—
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
National Transit Pump & Machine Co.
William Powell Co.
Power Piping Co.

Flanges—Iron—
American Rolling Mill Co.
Beaumont Iron Works Co.
Black, Sivalls & Bryson, Inc.
Bridgeport Machine Co.
Miles P. Brown Boiler Works
Byron Jackson Co.
Continental Supply Co.
Crane Co.
DeSoto Foundry & Machine Co., Ltd.
Duriron Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Grinnell Co., Inc.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
Houston Car Wheel & Machine Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
Lufkin Foundry & Machine Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
William Powell Co.
Power Piping Co.
Republic Supply Co.
Ross-Meehan Foundries Co.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Union Machine Co.
Henry Vogt Machine Co.
Walworth Co.

Flanges—Orifice—
Allegheny Steel Co.
Continental Supply Co.
Crane Co.
Foxboro Co., Inc.
Jarecki Manufacturing Co.
A. J. McEwan & Co.
Meriam Co.
Metric Metal Works
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
Moser Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Shaffer Tool Works
Taylor Forge & Pipe Works
Henry Vogt Machine Co.
Westcott & Greis, Inc.

Flanges—Steel—
American Rolling Mill Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Miles P. Brown Boiler Works
Continental Supply Co.
Crane Co.,
DeSoto Foundry & Machine Co., Ltd.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Grinnell Co., Inc.
Hanlon-Waters, Inc.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Kaw Steel Construction Co.
Kerotest Manufacturing Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
William Powell Co.
Power Piping Co.
Pressed Steel Car Co.
Reading Steel Casting Co., Inc.
Regan Forge & Engineering Co.
Ross-Meehan Foundries Co.
Republic Supply Co.
Shaffer Tool Works
Standard Steel Works
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Taylor Forge & Pipe Works
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Walworth Co.
Westcott Valve Co.

Flange Unions—
Beaumont Iron Works Co.
Black, Sivalls & Bryson, Inc.
Brewster Co., Inc.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
E. M. Dart Manufacturing Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kerotest Manufacturing Co.
George B. Limbert & Co.
Lucey Products Corp.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Shaffer Tool Works
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.
Watson Stillman Co.

Flash Lights—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Floating Roofs and Decks—
J. A. Campbell Co.
Chicago Bridge & Iron Works
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
Oil Well Supply Co.

Floats—Drill Pipe—
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bartlesville Supply Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Continental Supply Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
LeBus Rotary Tool Works
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Flood Lights—
Brauer Machine & Supply Co.
Continental Supply Co.
Bridgeport Machine Co.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Linde Air Products Co.
Moon Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Oxweld Acetylene Co.
Republic Supply Co.
Westinghouse Electric & Mfg. Co.

Floor Grating—
Aluminum Co. of America
International Derrick & Equipment Co.
Lucey Products Corp.
Lee C. Moore & Co., Inc.
Reading Iron Co.

Floor Plates—
Aluminum Co. of America
Miles P. Brown Boiler Works
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
Kaw Steel Construction Co.
McClintic-Marshall Co.
Reading Iron Co.
Republic Steel Corp.
Truscon Steel Co.
Tulsa Boiler & Machinery Co.

Flooring—Steel—
Miles P. Brown Boiler Works
International Derrick & Equipment Co.
McClintic-Marshall Co.
Lee C. Moore & Co., Inc.
Tulsa Boiler & Machinery Co.

Flow Beam—
Baash-Ross Tool Co.
Byron Jackson Co.
California Manufacturing & Engineering Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
MacClatchie Manufacturing Co.
J. H. McEvoy & Co.
National Supply Co.
Shaffer Tool Works

Flow Beam Gauges—
Continental Supply Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
MacClatchie Manufacturing Co.

Flow Meters—
Brown Instrument Co.
Foxboro Co., Inc.
Gilbert & Barker Mfg. Co.
Hercules Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Pittsburgh Equitable Meter Co.
Meriam Co.
Metric Metal Works
Oil Well Supply Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.
Young Engine Corp.

Flow Recorders—
Brown Instrument Co.
Consolidated Ashcroft Hancock Co.
Foxboro Co., Inc.
Hercules Supply Co.
International Supply Co.
Meriam Co.
Metric Metal Works
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Flux Welding—
Hercules Supply Co.
Linde Air Products Co.
Norvell-Wilder Supply Co.
Oxweld Acetylene Co.
Victor Welding Equipment Co.
Westinghouse Electric & Mfg. Co.

Foil—Aluminum—
Aluminum Co. of America
Parkersburg Rig & Reel Co.
Technical Products, Inc.

Foil—Copper—
Technical Products, Inc.

Forges—
Bridgeport Machine Co.
Dresser & Gorton, Inc.
Gardner-Denver Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Ross-Meehan Foundries Co.
Tulsa Boiler & Machinery Co.

Forges—Derrick—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
Spang & Co.

Forging Billets—
Beaumont Iron Works
Bethlehem Steel Co.
Bridgeport Machine Co.
Harrisburg Pipe & Pipe Bending Co.
International Derrick & Equipment Co.
International Nickel Co., Inc.
International Supply Co.
Jones & Laughlin Steel Corp.
Murray Tool & Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Steel Corp.
Youngstown Sheet & Tube Co.

Forgings—
Acme Fishing Tool Co.
Alco Products, Inc.
Aluminum Co. of America
Baash-Ross Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bethlehem Steel Co.
Bridgeport Machine Co.
Columbus Forge & Iron Co.
DeSoto Foundry & Machine Co., Ltd.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
International Nickel Co., Inc.
Larkin Packer Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Pressed Steel Car Co.
Reading Iron Co.
A. O. Smith Corp.
Taylor Forge & Pipe Works
Titusville Iron Works Co.
Henry Vogt Machine Co.
Walworth Co.

Forgings—Drop—
Bethlehem Steel Co.
Chain Belt Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
International Derrick & Equipment Co.
International Nickel Co., Inc.
Oil Well Supply Co.
Pressed Steel Car Co.
Reading Iron Co.
Spang & Co.
Henry Vogt Machine Co.

Foundations—Engines—
American Iron & Machine Works Co.
Brauer Machine & Supply Co.

Fractionating Equipment—
Alco Products, Inc.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
J. A. Campbell Co.
Chicago Bridge & Iron Works
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Jackson Engineering Corp.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Walter E. Lummus Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Winkler-Koch Engineering Co.

Fractionators—
Alco Products, Inc.
E. B. Badger & Sons Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
J. P. Devine Mfg. Co., Inc.
Hedges-Walsh-Weidner Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Arthur G. McKee & Co.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
Southwestern Engineering Corp.
Sun Shipbuilding & Drydock Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Winkler-Koch Engineering Co.

Foundry Equipment—
Chain Belt Co.
Chicago Pneumatic Tool Co.
J. P. Devine Mfg. Co., Inc.
General Electric Co.
Goslin-Birmingham Mfg. Co., Inc.
International Derrick & Equipment Co.
Link Belt Co.
D. S. Mair Machinery Corp.
Winkler-Koch Engineering Co.

Frames—Pump Jack—
Beaumont Iron Works Co.
Chain Belt Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Texas Steel Co.

Framings—Steel Engine and Pumphouse—
Butler Manufacturing Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Parkersburg Rig & Reel Co.

Fuel Oil Systems—
Bethlehem Steel Co.
Chicago Bridge & Iron Works
Gilbert & Barker Mfg. Co.
Marsh Gauge Pole Co.
National Airoil Burner Co.
National Transit Pump & Machine Co.
John Zink Co.

Funnels—
Butler Manufacturing Co.
Hercules Supply Co.
Reading Iron Co.

Furnace Builders—
Bigelow-Liptak Corp.
M. W. Kellogg Co.
Arthur G. McKee & Co.
Swindell-Dresser Corp.

Furnaces—
Bridgeport Machine Co.
Foster Wheeler Corp.
Hercules Supply Co.
D. S. Mair Machinery Corp.
Arthur G. McKee & Co.
National Transit Pump & Machine Co.
Taylor Forge & Pipe Works

Furnaces—Air Preheating—
Allegheny Steel Co.
J. A. Campbell Co.
Foster Wheeler Corp.
Hercules Supply Co.
Arthur G. McKee & Co.
Swindell-Dressler Corp.

Furnaces—Combination Oil and Gas—
Hercules Supply Co.
Arthur G. McKee & Co.
National Airoil Burner Co.

Furnaces—Electric—
General Electric Co.
Westinghouse Electric & Mfg. Co.

Furnaces—Gas—
Hercules Supply Co.
Arthur G. McKee & Co.
National Airoil Burner Co.
National Transit Pump & Machine Co.
Sullivan Machinery Co.

Furnaces—Gas—Soldering—
Frick-Reid Supply Corp.
Hercules Supply Co.
National Transit Pump & Machine Co.

Furnaces—Lead Melting—
Hercules Supply Co.
National Transit Pump & Machine Co.

Furnaces—Oil—
Black, Sivalls & Bryson, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
M. W. Kellogg Co.
Marsh Gauge Pole Co.
Arthur G. McKee & Co.
National Airoil Burner Co.
Sullivan Machinery Co.

Furnaces—Portable—
Frick-Reid Supply Corp.
Hercules Supply Co.
Ingersoll-Rand Co.
National Transit Pump & Machine Co.
Westinghouse Electric & Mfg. Co.

Furnaces—Water Cooled—
Foster Wheeler Corp.
Hercules Supply Co.
Superhearter Co.

Fuses—
Continental Supply Co.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
Murray Tool & Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Westinghouse Electric & Mfg. Co.

G

Gas—Welding—
Prest-O-Lite Co., Inc.

Gas and Oil Furnaces—Combination—
E. B. Badger & Sons Co.
Hercules Supply Co.
Arthur G. McKee & Co.
National Airoil Burner Co.

Gas Coolers (See Coolers—Gas)—
Alco Products, Inc.
Miles P. Brown Boiler Works
J. A. Campbell Co.
Crane Co.
Griscom-Russell Co.
Ingersoll-Rand Co.
Jackson Engineering Corp.
Petroleum Engineering, Inc.
Tulsa Boiler & Machinery Co.
Western Gas Construction Co.

Gas Holders—
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
McClintic-Marshall Co.
Pittsburgh-Des Moines Steel Co.
Stacey Engineering Co.
Western Gas Construction Co.

Gaskets—
Bridgeport Machine Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
B. F. Goodrich Rubber Co.
Hercules Supply Co.
Jenkins Brothers
McCord Radiator & Mfg. Co.
Jno. Muller Co.
National Lead Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Smooth-On Manufacturing Co
Tulsa Boiler & Machinery Co.

Gaskets—Asbestos—
Bridgeport Machine Co.
Columbian Steel Tank
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
B. F. Goodrich Rubber Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
George B. Limbert & Co.
McCord Radiator & Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
E. M. Smith Co.
Tulsa Boiler & Machinery Co.
Vellumoid Co.

Gaskets—Boiler—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Lucey Products Corp.
McCord Radiator & Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Gaskets—Corrugated Metal—
Crane Co.
Garlock Packing Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Tulsa Boiler & Machinery Co.
Key Boiler Equipment Co.
George B. Limbert & Co.
McCord Radiator & Mfg. Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Smooth-On Manufacturing Co
Tulsa Boiler & Machinery Co.

Gaskets—Cylinder Head—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers.
McCord Radiator & Mfg. Co.
Jno. Muller Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Gaskets—Fiber—
Continental Supply Co.
Crane Co.
Garlock Packing Co.
Hercules Supply Co.
George B. Limbert & Co.
McCord Radiator & Mfg. Co.
National Supply Co.
Oil Well Supply Co.
Tulsa Boiler & Machinery Co.
Vellumoid Co.

Gaskets—Gauge—Glass—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
B. F. Goodrich Rubber Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Vellumoid Co.

Gaskets—Lead—
Bridgeport Machine Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
McCord Radiator & Mfg. Co.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Oil Well Supply Co.

Gaskets—Metallic—
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
McCord Radiator & Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Gaskets—Rubber—
Black, Sivalls & Bryson, Inc.
Columbian Steel Tank
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
General Electric Co.
B. F. Goodrich Rubber Co.
Hercules Supply Co.
Jenkins Brothers.
George B. Limbert & Co.
McCord Radiator & Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.
E. M. Smith Co.
Tulsa Boiler & Machinery Co.
Vellumoid Co.

Gaskets—Tank Car—
Continental Supply Co.
Crane Co.
Garlock Packing Co.
Hercules Supply Co.
Jenkins Brothers.
McCord Radiator & Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
North American Car Corp.
Pressed Steel Car Co.
Vellumoid Co.

Gas Masks—
American LaFrance & Foamite Corp.
Hercules Supply Co.
National Supply Co.
Safety Gas Main Stopper Co.

Gas Masks and Safety Appliances
American LaFrance & Foamite Corp.
Frick-Reid Supply Corp.
Hercules Supply Co.
National Supply Co.
Oil Well Supply Co.

Gas—Plant Construction—
Southwestern Construction Corp.

Gasoline—
Barnsdall Refineries, Inc.
Burford Oil Co.
Deep Rock Oil Corp.
Empire Oil & Refining Co.
Humble Oil & Refining Co.
Gulf Refining Co.
Magnolia Petroleum Co.
Marsh Gauge Pole Co.
Pure Oil Co.
Shell Petroleum Corp.
Sinclair Refining Co.
Skelly Oil Co.
White Oak Refining Co.

Gasoline—Natural—
Empire Oil & Refining Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Shell Petroleum Corp.
Sinclair Refining Co.
Skelly Oil Co.
Warren Petroleum Co.

Gasoline—Stabilized—
Warren Petroleum Co.

Gasoline Filters—
American Tank & Equipment Co.
Gilbert & Barker Mfg. Co.
Goslin-Birmingham Mfg. Co., Inc.
Hercules Supply Co.
Southwestern Engineering Corp.

Gasoline Plant Equipment—
Alco Products, Inc.
American Steel Works
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Griscom-Russell Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
National Supply Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Southwestern Engineering Corp
Strong, Carlisle & Hammond Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works
John Zink Co.

Gasoline Plants—
Alco Products, Inc.
E. B. Badger & Sons Co.
C. F. Braun & Co.
J. A. Campbell Co.
Dresser & Gorton, Inc.
Foster Wheeler Corp.
Hercules Supply Co.
Jackson Engineering Corp.
Murray Tool & Supply Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Whealton & Townsend, Inc., Ltd.
Winkler-Koch Engineering Co.

Gasometers—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
McClintic-Marshall Co.
Petroleum Iron Works, Inc.
Joseph Reid Gas Engine Co.
International Supply Co.
National Supply Co.
Petroleum Iron Works Co.

Gas Regulator—Casinghead—
Chaplin-Fulton Mfg. Co.
Davis Regulator Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Manufacturing Co.
Mooriane Co., Inc.
Oil Well Supply Co.
Neilan Co., Ltd.
Pittsburgh Equitable Meter Co.
Strong, Carlisle & Hammond Co.
Westcott & Greis, Inc.

Gas Regulators—
Chaplin-Fulton Mfg. Co.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
McAlear Manufacturing Co.
Mooriane Co., Inc.
Neilan Co., Ltd.
National Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Strong, Carlisle & Hammond Co.
Young Engine Corp.
Westcott & Greis, Inc.

Gas Scrubbers—
Alco Products, Inc.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
Hanlon-Waters, Inc.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
McClintic-Marshall Co.
Murray Tool & Supply Co.
Southwestern Engineering Corp.
Stacey Engineering Co.
Tulsa Boiler & Machinery Co.
Western Gas Construction Co.

Gases—Welding and Cutting—
Hercules Supply Co.
Linde Air Products Co.
Norvell-Wilder Supply Co.
Skelly Oil Co.

Gate—Cellar Control—
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kerotest Manufacturing Co.
Lucey Products Corp.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works
Westcott Valve Co.

Gauge Glass Protectors—
Continental Supply Co.
Crane Co.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Oil Well Supply Co.

Gauge Testing Equipment—
Consolidated Ashcroft Hancock Co., Inc.
Crosby Steam Gage & Valve Co.
Hercules Supply Co.
Lucey Products Corp.
Metric Metal Works
Watson Stillman Co.

Gauge Wells—
Hercules Supply Co.
Oil Conservation Engineering Co.

Gauges—Absolute Pressure—
Bristol Co.
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Crosby Steam Gage & Valve Co.
Foxboro Co., Inc.
Hercules Supply Co.
Metric Metal Works
National Supply Co.
Oil Well Supply Co.
C. J. Tagliabue Mfg. Co.

Gauges—Acetylene and Oxygen—
Oxweld Acetylene Co.
Victor Welding Equipment Co.

Gauges—Automatic Tank—
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Foxboro Co., Inc.
Hercules Supply Co.
National Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.

Gauges—Bit and Tool—
Acme Fishing Tool Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Spang & Co.

Gauges—Drilling Bit—
Acme Fishing Tool Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.

International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Spang & Co.

Gauges—Hydraulic—
American Tank & Equipment Corp.
Bristol Co.
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Crosby Steam Gage & Valve Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Watson Stillman Co.
Westcott & Greis, Inc.

Gauges—Indicating—
Bridgeport Machine Co.
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Foxboro Co., Inc.
Hercules Supply Co.
Jerguson Gage & Valve Co.
Meriam Co.
Metric Metal Works
National Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Stacey Engineering Co.
C. J. Tagliabue Mfg. Co.
Watson Stillman Co.
Westcott & Greis, Inc.

Gauges—Liquid Level—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
Jerguson Gage & Valve Co.
Lunkenheimer Co.
Marsh Gauge Pole Co.
Meriam Co.
Metric Metal Works
Murray Tool & Supply Co.
National Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Penberthy Injector Co.
William Powell Co.
C. J. Tagliabue Mfg. Co.
Henry Vogt Machine Co.
Westcott & Greis, Inc.

Gauges—Low Pressure—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
George B. Limbert & Co.
Metric Metal Works
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Stacey Engineering Co.
Westcott & Greis, Inc.

Gauges—Pressure—
Bridgeport Machine Co.
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
Linde Air Products Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Martin-Decker Corp.
Meriam Co.
Metric Metal Works
Murray Tool & Supply Co.
National Supply Co.
National Tank Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Republic Supply Co.
Stacey Engineering Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies
Westcott & Greis, Inc.

Gauges—Pressure and Vacuum—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
Meriam Co.
Metric Metal Works
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Stacey Engineering Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Gauges—Recording—
Bridgeport Machine Co.
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Foxboro Co., Inc.
Hercules Supply Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Martin-Decker Corp.
Metric Metal Works
National Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Reed Roller Bit Co.
Stacey Engineering Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Gauges—Tank—
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Foxboro Co., Inc.
Hercules Supply Co.
International Supply Co.
Lufkin Rule Co.
Meriam Co.
Oil Conservation Engineering Co.
Ohio Injector Co.
Oil Well Supply Co.
Penberthy Injector Co.
Pittsburgh-Des Moines Steel Co.
Westcott & Greis, Inc.

Gauges—Test—
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Foxboro Co., Inc.
Hercules Supply Co.
Hills-McCanna Co.
Meriam Co.
Oil Conservation Engineering Co.
Metric Metal Works
Oil Well Supply Co.
Westcott & Greis, Inc.

Gauges—Taper Joints—
Hercules Supply Co.
International Derrick & Equipment Co.
Oil Well Supply Co.

Gauges "U"—
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
General Electric Co.
Meriam Co.
Metric Metal Works
Safety Gas Main Stopper Co.
Stacey Engineering Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Gauges—Vacuum—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crosby Steam Gage & Valve Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Meriam Co.
Metric Metal Works
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Stacey Engineering Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Gauges—Water—
Bridgeport Machine Co.
Bristol Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hills-McCanna Co.
International Supply Co.
Jerguson Gage & Valve Co.
Lucey Products Corp.
Lunkenheimer Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
William Powell Co.
Republic Supply Co.
Smith Separator Co.
C. J. Tagliabue Mfg. Co.
Henry Vogt Machine Co.

Gauge Glass—High Pressure—
Bridgeport Machine Co.
Continental Supply Co.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Jerguson Gage & Valve Co.
Meriam Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Smith Separator Co.

Gauge Poles—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
National Tank Co.
Norvell-Wilder Supply Co.
Republic Supply Co.

Gears—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Chain Belt Co.
Falk Corp.
Foote Bros. Gear & Machine Co.
General Electric Co.
Hercules Supply Co.
Kirk-Morrow Iron Works, Inc.
Link Belt Co.
Lufkin Foundry & Machine Co.
Oil Well Supply Co.
Ottumwa Iron Works
Sivyer Steel Casting Co.
Terry Steam Turbine Co.
Westinghouse Electric & Mfg. Co.

Gears—Cut—
Baash-Ross Tool Co.
DeSoto Foundry & Machine Co., Ltd.
Falk Corp.
Foote Bros. Gear & Machine Co.
Gaso Pump & Burner Mfg. Co.
General Electric Co.
Hopper Machine Works, Inc.
Link Belt Co.
Lufkin Foundry & Machine Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Ottumwa Iron Works
Reading Iron Co.
Westinghouse Electric & Mfg. Co.

Gears—Herringbone—
Baash-Ross Tool Co.
Falk Corp.
Foote Bros. Gear & Machine Co.
Gaso Pump & Burner Mfg. Co.
General Electric Co.
International Derrick & Equipment Co.
Link Belt Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Mooriane Co., Inc.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Ottumwa Iron Works
Reading Iron Co.
Terry Steam Turbine Co.

Gears—Reduction—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Continental Supply Co.
Falk Corp.
Foote Bros. Gear & Machine Co.
Gaso Pump & Burner Mfg. Co.
General Electric Co.
International Derrick & Equipment Co.
Link Belt Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Mooriane Co., Inc.
National Supply Co.
Oil Well Supply Co.
Ottumwa Iron Works
Parkersburg Rig & Reel Co.
Reading Iron Co.
Edward Soph.
Terry Steam Turbine Co.
Westinghouse Electric & Mfg. Co.

Gears—Worm—
Baash-Ross Tool Co.
Chain Belt Co.
Foote Bros. Gear & Machine Co.
Gaso Pump & Burner Mfg. Co.
Link Belt Co.
Lufkin Foundry & Machine Co.
Mooriane Co., Inc.
Oil Well Supply Co.
Reading Iron Co.
Westinghouse Electric & Mfg. Co.

Generators—Acetylene—
Columbian Steel Tank
Hercules Supply Co.
Linde Air Products Co.
D. S. Mair Machinery Corp.
Norvell-Wilder Supply Co.
Oxweld Acetylene Co.
Victor Welding Equipment Co.

Generators—Electric—
Louis Allis Co.
Allis-Chalmers Mfg. Co.
Bridgeport Machine Co.
Continental Supply Co.
Electric Arc Cutting & Welding Co.
Electric Machinery Mfg. Co.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
Lucey Products Corp.
Moon Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
United American Bosch Corp.
Westinghouse Electric & Mfg. Co.

Generators—Fire-Extinguishing Foam—
American LaFrance & Foamite Corp.
Hercules Supply Co.

Generators—Turbine—
Allis-Chalmers Mfg. Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Coppus Engineering Corp.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Moon Manufacturing Co.
Mooriane Co., Inc.
Murray Tool & Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Terry Steam Turbine Co.
Westinghouse Electric & Mfg. Co.

Glasses—Gauge—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Lunkenheimer Co.
National Supply Co.
Norvell-Wilder Supply Co.
Nuiam Co.
Republic Supply Co.

Glassware—Laboratory—
Hercules Supply Co.
C. J. Tagliabue Mfg. Co.

Globes—Advertising—
Cincinnati Advertising Products Co.

Gloves—Welding—
Oxweld Acetylene Co.

Goggles—Welding—
Oxweld Acetylene Co.

Governors—Boiler Feed—
Chaplin-Fulton Mfg. Co.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Manufacturing Co.
Mooriane Co., Inc.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Westcott & Greis, Inc.

Governors—Boiler Fuel—
Chaplin-Fulton Mfg. Co.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Manufacturing Co.
Mooriane Co., Inc.
Neilan Co., Ltd.
Westcott & Greis, Inc.

Governors—Pressure—
Chaplin-Fulton Mfg. Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Manufacturing Co.
Mooriane Co., Inc.
Neilan Co., Ltd.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Stacey Engineering Co.
Strong, Carlisle & Hammond Co.
Westcott & Greis, Inc.

Governors—Pump—
Chaplin-Fulton Mfg. Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Gardner-Denver Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Manufacturing Co.
Mooriane Co., Inc.
National Supply Co.
Neilan Co., Ltd.
Oil Well Supply Co.
Stacey Engineering Co.
Strong, Carlisle & Hammond Co.

Governors—Pump and Steam Engine—
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Gardner-Denver Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Manufacturing Co.
Mooriane Co., Inc.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Strong, Carlisle & Hammond Co.

Governors—Speed and Pressure—
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Gardner-Denver Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Manufacturing Co.
Mooriane Co., Inc.
Neilan Co., Ltd.
Oil Well Supply Co.
Stacey Engineering Co.
Terry Steam Turbine Co.

Governors—Variable Speed—
Buda Engine Service Co. of Tulsa
Crane Co.
Gardner-Denver Co.
Hercules Supply Co.
Mooriane Co., Inc.
I. P. Morris & De La Vergne, Inc.
Oil Well Supply Co.
Terry Steam Turbine Co.

Grabs—Valve Cup—
Acme Fishing Tool Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.

Grabs—Wire or Manila—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Spang & Co.

Graders—
Caterpillar Tractor Co.

Graphite—
Bridgeport Machine Co.
Joseph Dixon Crucible Co.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Republic Supply Co.

Graphite and Graphite Compounds
Continental Supply Co.
Joseph Dixon Crucible Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Jarecki Manufacturing Co.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Sullivan Co.

Graphite Paints—
Continental Supply Co.
Joseph Dixon Crucible Co.
E. I. Du Pont De Nemours & Co., Inc.
General Paint Corp.
Hercules Supply Co.
Republic Supply Co.
Sullivan Co.

Graphite Paste—
Continental Supply Co.
Joseph Dixon Crucible Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Key Boiler Equipment Co.
National Supply Co.
Republic Supply Co.
Sullivan Co.

Grating—Boilers—
Continental Supply Co.
DeSoto Foundry & Machine Co., Ltd.
Frick-Reid Supply Corp.
Hercules Supply Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
National Supply Co.

Grating—Steel—
Hercules Supply Co.
International Derrick & Equipment Co.
Standard Steel Works

Grease—Cup—
Bridgeport Machine Co.
Continental Supply Co.
Deep Rock Oil Corp.
Joseph Dixon Crucible Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Humble Oil & Refining Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Magnolia Petroleum Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Pure Oil Co.
Republic Supply Co.
Shell Petroleum Corp.
Sinclair Refining Co.
Skelly Oil Co.
Vacuum Oil Co.

Greases—Graphite—
Continental Supply Co.
Deep Rock Oil Corp.
Joseph Dixon Crucible Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Humble Oil & Refining Co.
Jarecki Manufacturing Co.
Magnolia Petroleum Co.
National Supply Co.
Oil Well Supply Co.
Pure Oil Co.
Republic Supply Co.
Shell Petroleum Corp.

Greases—Waterproof Graphite—
Deep Rock Oil Corp.
Joseph Dixon Crucible Co.
Hercules Supply Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Oil Well Supply Co.
Pure Oil Co.
Republic Supply Co.
Shell Petroleum Corp.
Sinclair Refining Co.

Grinding Tools—
Bridgeport Machine Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Jarecki Manufacturing Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Stoody Co.

Grip Polished Rod—
Brewster Co., Inc.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Shaffer Tool Works
Texas Steel Co.

Gripe—Pipe—
Continental Supply Co.
Frick-Reid Supply Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.

Oil Well Supply Co.
Spang & Co.

Grooving—Pipe Machines—
D. S. Mair Machinery Corp.

Guards—Safety—
American Iron & Machine Works
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Guides—Cement—
Continental Supply Co.
Frick-Reid Supply Corp.
Jarecki Manufacturing Co.
Republic Supply Co.

Guides—Rod—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
Oil Well Supply Co.

Guns—Breakout—
Beaumont Iron Works Co.
Hercules Supply Co.
Schramm, Inc.

Guns—Cement—
Hercules Supply Co.
National Supply Co.
Schramm, Inc.

H

Hammers—Chipping and Calking—Pneumatic—
Chicago Pneumatic Tool Co.
Hercules Supply Co.
Ingersoll-Rand Co.
D. S. Mair Machinery Corp.
Norvell-Wilder Supply Co.
Resistcor Engineering Corp.
Schramm, Inc.

Hammers—Forging—
D. S. Mair Machinery Corp.

Hammers—Riveting, Pneumatic—
Chicago Pneumatic Tool Co.
Hercules Supply Co.
Ingersoll-Rand Co.
D. S. Mair Machinery Corp.
Norvell-Wilder Supply Co.
Resistcor Engineering Corp.
Schramm, Inc.

Hangars—Airport—
Butler Manufacturing Co.
Columbian Steel Tank
Dresser & Gorton, Inc.
International Derrick & Equipment Co.
Marion Machine Foundry & Supply Co.
McClintic-Marshall Co.
North American Car Corp.
Pittsburgh-Des Moines Steel Co.
Truscon Steel Co.
Tulsa Boiler & Machinery Co.
Westinghouse Electric & Mfg. Co.

Hangers—Pipe—
Grinnell Co., Inc.

Hangers—Polish Rod—
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Hangers—Pumping—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
Lufkin Foundry & Machine Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.

Hangers—Sucker Rod—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lufkin Foundry & Machine Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
W-K-M Co.

Hangers—Tube—
Baash-Ross Tool Co.
Bartlesville Supply Co.
Bridgeport Machine Co.
Hercules Supply Co.
Oil Well Supply Co.
W-K-M Co.

Hangers—Tubing—
Hercules Tool Co.

Hangers—Wire Rope—
Bridgeport Machine Co.
Continental Supply Co.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.

Hard Surfacing Materials—
Blackor Co.
Haynes Stellite Co.
Stoody Co.

Hatches—Gauge—
Chicago Bridge & Iron Works
Hercules Supply Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
Oil Conservation Engineering Co.

Hatches—Gauge and Thief—
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
Parkersburg Rig & Reel Co.
Oil Conservation Engineering Co.

Hatches—Thief—
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Hercules Supply Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
Oil Conservation Engineering Co.

Head Boards—
Brauer Machine & Supply Co.

Headers—Welded—
Black, Sivalls & Bryson, Inc.
Butler Manufacturing Co.
J. A. Campbell Co.
Crane Co.
M. W. Kellogg Co.
George B. Limbert & Co.
McClintic-Marshall Co.
Moser Manufacturing Co.
Oil Well Supply Co.
Petroleum Iron Works Co.
Walworth Co.

Heads—Cement—
Grant Oil Tool Co.
Regan Forge & Engineering Co.

Heads—Circulating—
Baash-Ross Tool Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Elliott Manufacturing Co.
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Supply Co.
Lucey Products Corp.
MacClatchie Manufacturing Co.
Murray Tool & Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.

Heads—Drive—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works
Spang & Co.
Star Drilling Machine Co.

Heads—Exhaust—
Fisher Governor Co.
Foxboro Co., Inc.
McAlear Manufacturing Co.
Taylor Forge & Pipe Works

Heads—Flow, Air or Gas Lift—
Hercules Tool Co.

Heads—Gin Pole—
Continental Supply Co.
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Resistcor Engineering Corp.

Heads—Hold Up—Hold Down—Steel—
Surface Equipment Co.

Heads—Packing—
Bartlesville Supply Co.
Baash-Ross Tool Co.
Doheny Stone Drill Co.
Hercules Supply Co.
Hercules Tool Co.
International Supply Co.
Landis Machine Co., Inc.
Oil Well Improvements Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Regan Forge & Engineering Co.
Shaffer Tool Works

Heads—For Turret Lathes and Screw Machinery—
Dresser & Gorton, Inc.
Landis Machine Co., Inc.
Murray Tool & Supply Co.

Heat Exchangers—
Alco Products, Inc.
Allegheny Steel Co.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Crane Co.
C. F. Braun & Co.
J. A. Campbell Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Hercules Supply Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Walter E. Lummus Co.
Arthur G. McKee & Co.
Oil Well Supply Co.
Petroleum Engineering, Inc.
A. O. Smith Corp.
Southwestern Engineering Corp.
Sun Shipbuilding & Drydock Co.
Superheater Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Heat Exchangers—Fluid—
Alco Products, Inc.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Crane Co.
C. F. Braun & Co.
J. A. Campbell Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Walter E. Lummus Co.
Arthur G. McKee & Co.
Oil Well Supply Co.
Petroleum Engineering, Inc.
A. O. Smith Corp.
Southwestern Engineering Corp.
Superheater Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Heaters—
Alco Products, Inc.
C. F. Braun & Co.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Freeman Manufacturing Co.
Griscom-Russell Co.
Jackson Engineering Corp.
Arthur G. McKee & Co.
Southwestern Engineering Corp.
Henry Vogt Machine Co.
Westinghouse Electric & Mfg. Co.

Heaters—Air—
Air Preheater Corp.
Alco Products, Inc.
Butler Manufacturing Co.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Freeman Manufacturing Co.
Griscom-Russell Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Arthur G. McKee & Co.
Standard Steel Works
Henry Vogt Machine Co.
Westinghouse Electric & Mfg. Co.

Heaters—Asphalt, Tar—
Alco Products, Inc.
American Steel Works
C. F. Braun & Co.
J. P. Devine Mfg. Co., Inc.
Freeman Manufacturing Co.
Griscom-Russell Co.
Southwestern Engineering Corp.
Standard Steel Works
Henry Vogt Machine Co.

Heaters—Closed—
C. F. Braun & Co.
Foster Wheeler Corp.
Freeman Manufacturing Co.
Griscom-Russell Co.
Southwestern Engineering Corp.
Henry Vogt Machine Co.

Heaters—Deaerating—
Freeman Manufacturing Co.
Griscom-Russell Co.

Heaters—Electric—
General Electric Co.
Hercules Supply Co.
Westinghouse Electric & Mfg. Co.

Heaters—Feed Water—
Alco Products, Inc.
Biggs Boiler Works Co.
Brauer Machine & Supply Co.
C. F. Braun & Co.
J. A. Campbell Co.
Foster Wheeler Corp.
Griscom-Russell Co.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Worthington Pump & Machinery Corp.

Heaters—Gas—
Alco Products, Inc.
Biggs Boiler Works Co.
C. F. Braun & Co.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Hercules Supply Co.
Jackson Engineering Corp.
Southwestern Engineering Corp.
Henry Vogt Machine Co.

Heaters—Oil—
Alco Products, Inc.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Hercules Supply Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Arthur G. McKee & Co.
National Airoil Burner Co.
Southwestern Engineering Corp.
Superheater Co.
Henry Vogt Machine Co.

Heaters—Steam Jet—
Alco Products, Inc.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Griscom-Russell Co.
Hercules Supply Co.

Heaters—Water—
Alco Products, Inc.
American Iron & Machine Works Co.
C. F. Braun & Co.
Cameron Iron Works
Crane Co.
J. P. Devine Mfg. Co., Inc.
Freeman Manufacturing Co.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Hercules Supply Co.

Hoists—Air—
Chicago Pneumatic Tool Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Novo Engine Co.
Ottumwa Iron Works
Resistcor Engineering Corp.
Schramm, Inc.
Standard Steel Works
Sullivan Machinery Co.

Hoists—Electric—
Baash-Ross Tool Co.
Dresser & Gorton, Inc.
Hopper Machine Works, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Ottumwa Iron Works
Parkersburg Rig & Reel Co.
Sullivan Machinery Co.

Hoists—Locomotive—
Hercules Supply Co.
Northwest Engineering Co.

Hoists—Portable—
Allsteel Products Mfg. Co., Inc.
Baash-Ross Tool Co.
Continental Supply Co.
Doheny Stone Drill Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hopper Machine Works, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
National Supply Co.
Northwest Engineering Co.
Norvell-Wilder Supply Co.
Novo Engine Co.
Oil Well Supply Co.
Ottumwa Iron Works
Resistcor Engineering Corp.
Sullivan Machinery Co.
Trackson Co.
Wright Manufacturing Co.

Hoists—Stationary—
Trackson Co.

Hoists—Steam—
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Ingersoll-Rand Co.
Oil Well Supply Co.
Ottumwa Iron Works

Hoists—Tractor—
Trackson Co.

Hoists—Tubing—
Allsteel Products Mfg. Co., Inc.
Beaumont Iron Works Co.
Brewster Co., Inc.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Hopper Machine Works, Inc.
Hercules Supply Co.
Lufkin Foundry & Machine Co.
National Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Resistcor Engineering Corp.
Star Drilling Machine Co.
W-K-M Co.

Hooks—
Beaumont Iron Works Co.
Byron Jackson Co.
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.

Hooks—Disconnecting—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Union Machine Co.

Hooks—Pipe—
Byron Jackson Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
National Supply Co.
Oil Well Supply Co.
Resistcor Engineering Corp.
W-K-M Co.
Walworth Co.

Hooks—Polish Rod—
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Hooks—Safety—
Beaumont Iron Works Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Union Machine Co.

Hooks—Sucker Rod—
Beaumont Iron Works Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.

Hooks—Surface Rods—
Beaumont Iron Works Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
National Supply Co.
Oil Well Supply Co.

Hooks—Wall—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Doheny Stone Drill Co.
Hercules Supply Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
Vickers Machine Co.

Hook-Up Irons—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.

Hoppers—Ash—
Kaw Steel Construction Co.
Link Belt Co.
McClintic-Marshall Co.
Standard Steel Works

Hoppers—Coal—
Chicago Bridge & Iron Works
Kaw Steel Construction Co.
Link Belt Co.
McClintic-Marshall Co.
Standard Steel Works

Hoppers—Steel—
Chicago Bridge & Iron Works
Hercules Supply Co.
Kaw Steel Construction Co.
Link Belt Co.
McClintic-Marshall Co.
Standard Steel Works
Sun Shipbuilding & Drydock Co.
Wyatt Metal & Boiler Works

Hose—
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Ingersoll-Rand Co.
Linde Air Products Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Hose—Acid—
Continental Supply Co.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Oil Well Supply Co.
E. M. Smith Co.

Hose—Air—
Binks Manufacturing Co.
Bridgeport Machine Co.
Chicago Pneumatic Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Martin-Decker Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Oxweld Acetylene Co.
Resistcor Engineering Corp.
Schramm, Inc.
E. M. Smith Co.
Sullivan Machinery Co.
Victor Welding Equipment Co.

Hose—Cementing—
Bridgeport Machine Co.
Continental Supply Co.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
E. M. Smith Co.

Hose—Chemical—
Continental Supply Co.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.

Hose—Conduit—
Continental Supply Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
National Supply Co.

Hose—Drillers—
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Republic Supply Co.
E. M. Smith Co.

Hose—Drilling—
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.

Goodyear Tire & Rubber Co., Inc.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
Oil Well Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Republic Supply Co.
E. M. Smith Co.

Hose—Fire—
American LaFrance & Foamite Corp.
Continental Supply Co.
Frick-Reid Supply Corp.
General Manufacturing Co.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.

Hose—Flexible—Metallic—
American Steel Works
Continental Supply Co.
Elliott Manufacturing Co.
B. F. Goodrich Rubber Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Hose—Gasoline—
American Steel Works
Butler Manufacturing Co.
Chicago Pneumatic Tool Co.
Continental Supply Co.
Gilbert & Barker Mfg. Co.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Standard Steel Works

Hose—Oil—
American Steel Works
Butler Manufacturing Co.
Continental Supply Co.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.

Hose—Rotary—
Baker Oil Tools, Inc.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Champion & Barber, Inc.
Continental Supply Co.
Elliott Manufacturing Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Lacy Manufacturing Co.
Lucey Products Corp.
MacClatchie Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Hose—Rubber—
Bridgeport Machine Co.
Butler Manufacturing Co.
Chicago Pneumatic Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Hose—Steam—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Hose—Water—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Jarecki Manufacturing Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Houses—Meter—
Houston Ready Cut House Co.

Houses—Sectional—
Dresser & Gorton, Inc.
Hercules Supply Co.
Houston Ready-Cut House Co.
International Derrick & Equipment Co.
Murray Tool & Supply Co.
National Supply Co.
Parkersburg Rig & Reel Co.

Hydrants—Fire—
Chapman Valve Mfg. Co.
Darling Valve & Mfg. Co.
Fulton Iron Works Co.
Goulds Pumps, Inc.
Jarecki Manufacturing Co.
Kennedy Valve Mfg. Co.
Ludlow Valve Mfg. Co.
Michigan Valve & Foundry Co.

Hydrogenation Plants—
Allegheny Steel Co.
McClintic-Marshall Co.

Hydrometers—
Continental Supply Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
National Supply Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies

I

Ice-Making Machinery—
Alco Products, Inc.
Ingersoll-Rand Co.
I. P. Morris & De La Vergne, Inc.
Henry Vogt Machine Co.

Idlers—Belt—
Chain Belt Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Link Belt Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
Joseph Reid Gas Engine Co.
Union Machine Co.

Igniters—
Wico Electric Co.

Ignition—
United American Bosch Corp.
Wico Electric Co.

Illuminators—Gauge—
Hercules Supply Co.

Indicators—
Consolidated Ashcroft Hancock Co., Inc.
Crosby Steam Gage & Valve Co.
Hercules Supply Co.
Martin-Decker Corp.
Murray Tool & Supply Co.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.

Indicators—Leak—
Granger Indicator Co.

Indicators—Temperature—
American Steel Works
American Tank & Equipment Corp.
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Foxboro Co., Inc.
Hercules Supply Co.
Martin-Decker Corp.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
C. J. Tagliabue Mfg. Co.
Westinghouse Electric & Mfg. Co.

Indicators—Weight—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Martin-Decker Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.

Injectors—
Bridgeport Machine Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
Penberthy Injector Co.
Republic Supply Co.
Victor Balata & Textile Belting Co.
Westcott & Greis, Inc.

Inserts—Pump Valve—
Bridgeport Machine Co.
Continental Supply Co.
Gardner-Denver Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
MacClatchie Manufacturing Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
E. M. Smith Co.
Titusville Iron Works Co.
Victor Balata & Textile Belting Co.

Instruments—
Bristol Co.
Consolidated Ashcroft Hancock Co., Inc.
Crosby Steam Gage & Valve Co.
Foxboro Co., Inc.
General Electric Co.
Meriam Co.
Oil Well Supply Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.
Westinghouse Electric & Mfg. Co.

Instruments—Crooked Hole—
Driftmeter, Inc.
Patterson-Ballagh Corp.
Sperry-Sun Well Surveying Co.

Instruments—Gas Testing—
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Hercules Supply Co.
Meriam Co.
Westcott & Greis, Inc.

Instruments—Geophysical—
American Askania Corp.

Instruments—Oil Testing—
Consolidated Ashcroft Hancock Co., Inc.
Hercules Supply Co.
Jarecki Manufacturing Co.
C. J. Tagliabue Mfg. Co.

Instruments—Well Surveying—
Doheny Stone Drill Co.
Driftmeter, Inc.
Patterson-Ballagh Corp.
Sperry-Sun Well Surveying Co.

Insulating Cement—
Philip Carey Co.
Crane Co.
Eagle-Picher Lead Co.
Hercules Supply Co.
Sullivan Co.
Westinghouse Electric & Mfg. Co.

Insulating Material—
Philip Carey Co.
Crane Co.
Eagle-Picher Lead Co.
Hercules Supply Co.
Sullivan Co.
Westinghouse Electric & Mfg. Co.

Insulation—Boiler Asbestos—
Philip Carey Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
National Supply Co.

Insurance—Fire—
Hercules Supply Co.

Interchangers—Heat—
Alco Products, Inc.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Hercules Supply Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Arthur G. McKee & Co.
Oil Well Supply Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Standard Steel Works
Tulsa Boiler & Machinery Co.

Intercoolers—
Alco Products, Inc.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Crane Co.
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Kirk-Morrow Iron Works, Inc.
Arthur G. McKee & Co.
National Supply Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.

Intermitter—Automatic Air-Gas Lift—
Griscom-Russell Co.
National Tank Co.

Investments—
Exchange Banks of Tulsa
First National Bank & Trust Co. of Oklahoma City
First National Bank & Trust Co. of Tulsa
Carl H. Pforsheimer & Co.

Iron—Corrosion Resisting—
American Radiator Co.
American Rolling Mill Co.
Bethlehem Steel Co.
Duriron Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Moorlane Co., Inc.
Reading Iron Co.
Republic Steel Corp.
Walworth Co.

Iron—Rig—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Union Machine Co.

Iron Oxide—
Hercules Supply Co.
International Derrick & Equipment Co.
Sullivan Co.

Iron—Wrought—
Highland Iron & Steel Co.

Irons—Hook Up Steel—
Surface Equipment Co.

J

Jackets—Oil Field Boiler—
Hercules Supply Co.
Oil Well Supply Co.

Jacks—Hydraulic—
Bridgeport Machine Co.
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Supply Co.
D. S. Mair Machinery Corp.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Watson Stillman Co.

Jacks—Lifting—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Templeton, Kenly & Co., Ltd.

Jacks—Pull Rod Steel—
Surface Equipment Co.

Jacks—Pumping—
Allis-Chalmers Mfg. Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
B. G. Goble Mfg. Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.
Spang & Co.
Texas Steel Co.
Union Machine Co.

Jars—Drilling—
Acme Fishing Tool Co.
Axelson Mfg. Co., Ltd.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Spang & Co.
Star Drilling Machine Co.
Titusville Iron Works Co.

Jars—Fishing—
Acme Fishing Tool Co.
Alco Tool Co., Ltd.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Shaffer Tool Works
Spang & Co.
Star Drilling Machine Co.

Jars—Steel—
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Murray Tool & Supply Co.
Oil Well Supply Co.
Republic Steel Corp.

Jars—Pipe—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Spang & Co.

Jet—Slush Pit—
Brauer Machine & Supply Co.

Joints—Drill Pipe Float—
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bartlesville Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Doheny Stone Drill Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
LeBus Rotary Tool Works
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Joints—Expansion—
Baash-Ross Tool Co.
Continental Supply Co.
Crane Co.
Foster Wheeler Corp.
Frick-Reid Supply Corp.
Griscom-Russell Co.
Headley Emulsified Products Co.
Hercules Supply Co.
International Supply Co.
George B. Limbert & Co.
Lunkenheimer Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Taylor Forge & Pipe Works
Walworth Co.

Joints—Flexible Ball—
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
George B. Limbert & Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Taylor Forge & Pipe Works

Joints—Kelly—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Titusville Iron Works Co.

Joints—Pipe—
Bethlehem Steel Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
M. W. Kellogg Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Reading Steel Casting Co., Inc.
Taylor Forge & Pipe Works
Titusville Iron Works Co.
Victaulic Co. of America
Walworth Co.
Youngstown Sheet & Tube Co.

Joints—Screwed—
Hercules Supply Co.
International Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Spengler Tool Co.
Titusville Iron Works Co.
Walworth Co.

Joints—Swing—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Lunkenheimer Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
William Powell Co.
Walworth Co.
Watson Stillman Co.

Joints—Tool—
Acme Fishing Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
Hopper Machine Works, Inc.
Hughes Tool Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Republic Supply Co.
Shaffer Tool Works
Spang & Co.
Spengler Tool Co.
Titusville Iron Works Co.

Joints—Tool, Antifriction—
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
Oil Well Supply Co.

K

Kerosene—
Deep Rock Oil Corp.
Hercules Supply Co.
Humble Oil & Refining Co.
Kerosene Oil Co.
Magnolia Petroleum Co.
Pure Oil Co.
Shell Petroleum Corp.
Sinclair Refining Co.
Skelly Oil Co.
White Oak Refining Co.

Kettles—Compounding—
Alco Products, Inc.
American Steel Works
Miles P. Brown Boiler Works

Chicago Bridge & Iron Works
Columbian Steel Tank
J. P. Devine Mfg. Co., Inc.
Hercules Supply Co.
Leader Iron Works, Inc.
Littleford Brothers
Resistcor Engineering Corp.
Standard Steel Works
Union Machine Co.
Wyatt Metal & Boiler Works

Kettles—Grease—
Sowers Manufacturing Co.

Kettles—Mixing—
E. B. Badger & Sons Co.
Bigge Boiler Works Co.
Sowers Manufacturing Co.

Kettles—Jacketed—
Bigge Boiler Works Co.
Sowers Manufacturing Co.

Kettles—Single Shell—
Sowers Manufacturing Co.

Kilns—
Allis-Chalmers Mfg. Co.
Chicago Bridge & Iron Works
Goslin-Birmingham Mfg. Co., Inc.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
Sun Shipbuilding & Drydock Co.
Swindell-Dressler Corp.

Knives—Rope—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Power Piping Co.

L

Lacquers—
E. I. Du Pont de Nemours & Co., Inc.
General Paint Corp.
Hercules Supply Co.
Westinghouse Electric & Mfg. Co.

Ladle—Babbitt Pouring—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
D. S. Mair Machinery Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Lamps—Blue Printing—
General Electric Co.

Lamps—Derrick—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Union Machine Co.

Lamps—Electric Light—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Westinghouse Electric & Mfg. Co.

Lanterns—Electric—
American LaFrance & Foamite Corp.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Lanterns—Hand—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Latches—Safety—
Regan Forge & Engineering Co.

Lathes—Oil Country—
Axelson Mfg. Co., Ltd.
Dresser & Gorton, Inc.
Hercules Supply Co.
D. S. Mair Machinery Corp.
National Supply Co.
Oil Well Supply Co.

Lead—Burning—
Hercules Supply Co.
Leader Iron Works, Inc.
National Lead Co.

Lead-Burning Equipment—
American Steel Works
General Electric Co.
Hercules Supply Co.
Linde Air Products Co.
Oxweld Acetylene Co.

Lead—Hard—
Eagle-Picher Lead Co.
Hercules Supply Co.
National Lead Co.

Lead Lining—
Eagle-Picher Lead Co.
Hercules Supply Co.
Leader Iron Works, Inc.
National Lead Co.

Lead Paint—
Continental Supply Co.
E. I. Du Pont de Nemours & Co., Inc.
Eagle-Picher Lead Co.
General Paint Corp.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Republic Supply Co.
St. Louis Surfacer & Paint Co.
Sullivan Co.
Technical Products, Inc.
Westinghouse Electric & Mfg. Co.

Lead Wool—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Eagle-Picher Lead Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Norvell-Wilder Supply Co.
Republic Supply Co.

Leathers—Valve—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
MacClatchie Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
E. M. Smith Co.
Wyatt Metal & Boiler Works
Youngstown Sheet & Tube Co.

Levers—Brake Rotary—
Brauer Machine & Supply Co.

Levers—Combination Reverse and Throttle—
American Iron & Machine Works Co.
Brauer Machine & Supply Co.

Lights—Flood—
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Linde Air Products Co.
Moon Manufacturing Co., The
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Westinghouse Electric & Mfg. Co.

Lighting Plants—Electric—
Bridgeport Machine Co.
Buda Engine Service Co. of Tulsa
Clark Brothers Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kohler Co.
Moriam Co.
Moon Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Novo Engine Co.
Oil Well Supply Co.
Republic Supply Co.
Resistcor Engineering Corp.
Star Drilling Machine Co.
Westinghouse Electric & Mfg. Co.

Lighting Plants—Gas Engine—
Kohler Co.
Moon Mfg. Co.

Liner—Flush Joint—
Baash-Ross Tool Co.
Continental Supply Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Oil Well Supply Co.

Liner—Polish Rod—
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
Jarecki Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.

Liners—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Byron Jackson Co.
California Mfg. & Engineering Co.
Emsco Derrick & Equipment Co.
Gardner-Denver Co.
Hamer Oil Tool Co., Ltd.
Houston Car Wheel & Machine Co.
Hercules Supply Co.
Oil Well Supply Co.

Liners—Cylinder—
Allegheny Steel Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
California Manufacturing & Engineering Co.
Continental Equipment Co.
Emsco Derrick & Equipment Co.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
I. P. Morris & De La Vergne, Inc.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Shaffer Tool Works
Spengler Tool Co.
Titusville Iron Works Co.
Wilson Snyder Mfg. Corp.

Liners—Plungers—
Baash-Ross Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Shaffer Tool Works
Spengler Tool Co.
Titusville Iron Works Co.

Liners—Pumps—
Harrisburg Pipe & Pipe Bending Co.

Lines—Swing—
Hazard Wire Rope Co.
Hercules Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Oil Well Supply Co.

Lining—Brake—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Jno. Muller Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Scandinavia Belting Co.
E. M. Smith Co.

Links—"C" Steel, Drop Forged Steel (Safety)—
Surface Equipment Co.

Links—Disconnecting Steel—Safety
Surface Equipment Co.

Links—Quaker Turn Pick Up Steel
Surface Equipment Co.

Links—Swivel—Tubing—
Continental Supply Co.
Hercules Supply Co.
International Supply Co.
Lufkin Foundry & Machine Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Linseed Oil—
Bridgeport Machine Co.
Continental Supply Co.
General Paint Corp.
Hercules Supply Co.
National Lead Co.
National Supply Co.
Sullivan Co.

Liquid Level Controllers—
Allis-Chalmers Mfg. Co.
Brown Instrument Co.
J. A. Campbell Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Foxboro Co., Inc.
General Electric Co.
Griscom-Russell Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Meriam Co.
Moorlane Co., Inc.
National Supply Co.
National Tank Co.
Smith Separator Co.
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.

Litharge—
Eagle-Pitcher Lead Co.
General Paint Co.
National Lead Co.
Sullivan Co.

Loaders—Material—
Buda Engine Service of Tulsa

Loaders—Trucks—
Baash-Ross Tool Co.
J. A. Campbell Co.
Hercules Supply Co.
Hopper Machine Works, Inc.
Leader Iron Works
Resistcor Engineering Corp.

Loading Racks—
American Steel Works
Black, Sivalls & Bryson, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Wyatt Metal & Boiler Works

Look Boxes—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Walter E. Lummus Co.
National Supply Co.
Oil Conservation Engineering Co.
Regan Forge & Engineering Co.
Joseph Reid Gas Engine Co.

Lubricant—Valve—
Continental Supply Co.
Crane Co.
Hercules Supply Co.
Magnolia Petroleum Co.
Merco Nordstrom Valve Co.
National Supply Co.
Pure Oil Co.
Sinclair Refining Co.

Lubricating Devices—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Drane-Humphrey Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hills-McCanna Co.
Jarecki Manufacturing Co.
Lunkenheimer Co.
McCord Radiator & Mfg. Co.
National Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Union Machine Co.
Vacuum Oil Co.
Watson Stillman Co.

Lubricators—Force Feed—
Ajax Iron Works
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hills-McCanna Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Lunkenheimer Co.
McCord Radiator & Mfg. Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
Republic Supply Co.
Vacuum Oil Co.
Union Machine Co.
United American Bosch Corp.

Lubricators—Steam—
American Iron & Machine Works Co.
Badgett Steam Lubricator Co.

Lubricators—Wire Line—
Drane-Humphrey Co., Inc.
Regan Forge & Engineering Co.

Lumber—Creosoted—
Ayer & Lord Tie Co.

M

Machinery—Wax Plant—
Alco Products, Inc.
Bethlehem Steel Co.
Hercules Supply Co.
D. S. Mair Machinery Corp.
Reading Iron Co.
Henry Vogt Machine Co.

Machines—Bit Dressing—
Charles A. Butler Mfg. Co.

Machines—Pipe Wrapping—
General Paint Corp.
Resistcor Engineering Corp.

Machines—Pulling and Balling—
Allsteel Products Mfg. Co., Inc.
Beaumont Iron Works Co.
Cameron Iron Works
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Moser Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Resistcor Engineering Corp.
Star Drilling Machine Co.
Watson Stillman Co.
W-K-M Co.

Machines—Refrigerating—
Ingersoll-Rand Co.
Moorlane Co., Inc.
I. P. Morris & De La Vergne, Inc.
Henry Vogt Machine Co.

Machines—Thread Milling—
Lees-Bradner Co.

Machines—Welding—
Electric Arc Cutting & Welding Co.
General Electric Co.
Hercules Supply Co.
Linde Air Products Co.
D. S. Mair Machinery Corp.
Oil Well Supply Co.
Resistcor Engineering Corp.
Victor Welding Equipment Co.
Wilson Welder & Metals Co., Inc.

Machine Shop Work—
American Iron & Machine Works Co.
Axelson Mfg. Co., Ltd.
Baash-Ross Tool Co.
Bart Products Co.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Miles P. Brown Boiler Works
DeSoto Foundry & Machine Co., Ltd.
J. P. Devine Mfg. Co., Inc.
Doheny Stone Drill Co.
Dresser & Gorton, Inc.
Elliott Manufacturing Co.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
Lees-Bradner Co.
Link Belt Co.
Moser Manufacturing Co.
Jno. Muller Co.
Murray Tool & Supply Co.
Oil Well Supply Co.
Ottumwa Iron Works
Parkersburg Rig & Reel Co.
Shaffer Tool Works
Sun Shipbuilding & Drydock Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Machine—Tools—
American Iron & Machine Works Co.
Dresser & Gorton, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Landis Machine Co., Inc.
Lees-Bradner Co.
D. S. Mair Machinery Corp.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.

Machinists' Tools—
Lufkin Rule Co.

Magnetos—
United American Bosch Corp.
Wico Electric Co.

Mandrels—Casing—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Continental Supply Co.
Hercules Supply Co.
Murray Tool & Supply Co.
Oil Well Supply Co.

Manhole Covers—
Beaumont Iron Works Co.
Brewster Co., Inc.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Columbian Steel Tank
Grinnell Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
McClintick-Marshall Co.
Moser Manufacturing Co.
National Supply Co.
Oil Conservation Engineering Co.
Ottumwa Iron Works
Parkersburg Rig & Reel Co.
Reading Iron Co.
Ross-Meehan Foundries Co.
Tulsa Boiler & Machinery Co.

Manholes—
Beaumont Iron Works Co.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Columbian Steel Tank
Hercules Supply Co.
Houston Car Wheel & Machine Co.
International Derrick & Equipment Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
McClintick-Marshall Co.
Moser Manufacturing Co.
National Tank Co.
Oil Conservation Engineering Co.
Ottumwa Iron Works
Parkersburg Rig & Reel Co.
Taylor Forge & Pipe Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Manifolds—
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Miles P. Brown Boiler Works
Hercules Supply Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
National Supply Co.
Parkersburg Rig & Reel Co.
Power Piping Co.
Ross-Meehan Foundries Co.
Henry Vogt Machine Co.
Walworth Co.
Westcott Valve Co.
Wyatt Metal & Boiler Works

Manifolds—Cylinder for Oxygen and Acetylene—
Hercules Supply Co.
Kerotest Mfg. Co.
Linde Air Products Co.
Victor Welding Equipment Co.

Manometers—
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Meriam Co.
Metric Metal Works
Pittsburgh Equitable Meter Co.

Mapping—Aerial Photography—
Engineers Aerial Surveys

Maps—Abstract—
Mid-Continent Map Co.

Maps—Block—
Mid-Continent Map Co.

Maps—Oil Field—
Mid-Continent Map Co.

Maps—Ownership—
Mid-Continent Map Co.

Measuring Line—
Moser Manufacturing Co.

Measuring Line Clamps—
Moser Manufacturing Co.

Measuring Line Machines—
Moser Manufacturing Co.

Measuring Line Reels—
Moser Manufacturing Co.

Metals—Bearing—
Eagle-Picher Lead Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hills-McCanna Co.
International Derrick & Equipment Co.
International Supply Co.
I. P. Morris & De La Vergne, Inc.
National Lead Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.

Metal Facings—Hard Surface—
Dresser & Gorton, Inc.
Globe Oil Tools Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.

Natural Gas Equipment Co.
Oil Well Supply Co.
Spengler Tool Co.

Metals—Nonferrous—
Eagle-Picher Lead Co.
Hercules Supply Co.
Hills-McCanna Co.
International Nickel Co. Inc.
I. P. Morris & De La Vergne, Inc.
Oil Well Supply Co.
Stoody Co.

Metals—Perforated—
Allis-Chalmers Mfg. Co.

Meters—
Consolidated Ashcroft Hancock Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Metric Metal Works
Norvell-Wilder Supply Co.
Oil Well Supply Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.
Worthington Pump & Machinery Corp.

Meters—Curb—
Hercules Supply Co.
A. J. McEwan & Co.
Metric Metal Works
National Supply Co.
Pittsburgh Equitable Meter Co.
Westcott & Greis, Inc.

Meters—Diaphragm—
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
A. J. McEwan & Co.
Meriam Co.
Metric Metal Works
National Supply Co.
Pittsburgh Equitable Meter Co.
Westcott & Greis, Inc.
Worthington Pump & Machinery Corp.

Meters—Electric—
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
General Electric Co.
Hercules Supply Co.
A. J. McEwan & Co.
National Supply Co.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.

Meters—Flow—
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
A. J. McEwan & Co.
Meriam Co.
Metric Metal Works
National Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Stacey Engineering Co.
Westcott & Greis, Inc.
Worthington Pump & Machinery Corp.

Meters—Fluid—
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Foxboro Co., Inc.
Hercules Supply Co.
A. J. McEwan & Co.
Meriam Co.
Metric Metal Works
National Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Stacey Engineering Co.
Westcott & Greis, Inc.
Young Engine Corp.

Meters—Gas—
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
A. J. McEwan & Co.
Meriam Co.
Metric Metal Works
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Stacey Engineering Co.
Westcott & Greis, Inc.

Meters—Gasoline—
Brown Instrument Co.
Butler Manufacturing Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Foxboro Co., Inc.
Hercules Supply Co.
A. J. McEwan & Co.
Meriam Co.
Metric Metal Works
National Supply Co.
Pittsburgh Equitable Meter Co.
Stacey Engineering Co.
Worthington Pump & Machinery Corp.

Meters—Indicating Flow—
Brown Instrument Co.
Foxboro Co., Inc.
Hercules Supply Co.
A. J. McEwan & Co.
Meriam Co.
Metric Metal Works
National Supply Co.
Oil Well Supply Co.
Stacey Engineering Co.
Westcott & Greis, Inc.

Meters—Iron Case—
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
A. J. McEwan & Co.
Metric Metal Works
National Supply Co.
Pittsburgh Equitable Meter Co.
Westcott & Greis, Inc.
Worthington Pump & Machinery Corp.

Meters—Oil—
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Foxboro Co., Inc.
Hercules Supply Co.
A. J. McEwan & Co.
Metric Metal Works
National Supply Co.
Norvell-Wilder Supply Co.
Pittsburgh Equitable Meter Co.
Stacey Engineering Co.
Westcott & Greis, Inc.
Worthington Pump & Machinery Corp.

Meters—Orifice—
Allegheny Steel Co.
Brown Instrument Co.
Continental Supply Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
A. J. McEwan & Co.
Meriam Co.
Metric Metal Works
National Supply Co.
Pittsburgh Equitable Meter Co.
Robinson Orifice Fittings Co.
Westcott & Greis, Inc.

Meters—Portable Testing—
Consolidated Ashcroft Hancock Co., Inc.
A. J. McEwan & Co.
Meriam Co.
Metric Metal Works
National Supply Co.
Pittsburgh Equitable Meter Co.
Westcott & Greis, Inc.
Westinghouse Electric & Mfg. Co.

Meters—Station—
A. J. McEwan & Co.
Metric Metal Works
Pittsburgh Equitable Meter Co.
Stacey Engineering Co.
Westcott & Greis, Inc.
Worthington Pump & Machinery Corp.

Meters—Test—
Consolidated Ashcroft Hancock Co., Inc.
A. J. McEwan & Co.
Meriam Co.
Metric Metal Works
Pittsburgh Equitable Meter Co.
Westcott & Greis, Inc.
Westinghouse Electric & Mfg. Co.
Worthington Pump & Machinery Corp.

Milling Machines—
Continental Supply Co.
Dresser & Gorton, Inc.
Hercules Supply Co.
D. S. Mair Machinery Corp.

Milling Tools—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
LeBus Rotary Tool Works
Reed Roller Bit Co.
Vickers Machine Co.

Mills—Sidetracking—
American Iron & Machine Works Co.

Mixers—Grease—
Sowers Manufacturing Co.

Mixers—Pressure—
Sowers Manufacturing Co.

Mixing Equipment—
Biggs Boiler Works Co.
Miles P. Brown Boiler Works
Hercules Supply Co.
Sowers Mfg. Co.

Molded Goods—Rubber—
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Oil Well Improvements Co.
Oil Well Supply Co.
Republic Supply Co.

Motors—Electric—
Louis Allis Co.
Allis-Chalmers Mfg. Co.
Bridgeport Machine Co.
Continental Supply Co.
Electric Machinery Mfg. Co.
Fort Worth Well Machinery & Supply Co., Inc.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Lincoln Electric Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Standard Steel Works
U. S. Electrical Mfg. Co.
Wagner Electric Corp.
Westinghouse Electric & Mfg. Co.

Motors—Explosion Proof—
Louis Allis Co.
Allis-Chalmers Mfg. Co.
General Electric Co.
Hercules Supply Co.
Lucey Products Corp.
National Supply Co.
Oil Well Supply Co.
Wagner Electric Corp.

Motors—Gasoline—
Buda Engine Service Co. of Tulsa
Hercules Supply Co.
International Harvester Co. of America
International Supply Co.
Lufkin Foundry & Machine Co.
Marsh Gauge Pole Co.
National Supply Co.
Oil Well Supply Co.
Resistcor Engineering Corp.

Motors—Squirrel Cage—
Louis Allis Co.
Allis-Chalmers Mfg. Co.
Bridgeport Machine Co.
Continental Supply Co.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Lincoln Electric Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Wagner Electric Co.
Westinghouse Electric & Mfg. Co.

Motors—Synchronous—
Allis-Chalmers Mfg. Co.
Electric Machinery Mfg. Co.
General Electric Co.
Wagner Electric Corp.
Westinghouse Electric & Mfg. Co.

Motor Fuel—
Ethyl Gasoline Corp.

Mud Handling Equipment—
Baash-Ross Tool Co.,
Brauer Machine & Supply Co.
California Talc Co.
Frick-Reid Supply Corp.
B. G. Goble Mfg. Co.
Hercules Supply Co.
National Equipment Corp.
National Supply Co.
Northwest Engineering Co.
Oil Well Supply Co.
Reed Roller Bit Co.
W-K-M Co.
Wilson-Snyder Mfg. Co.

Multipliers—
B. G. Goble Mfg. Co.

Multipliers—Full Rod Adjustable—
Surface Equipment Co.

N

Nails—
Aluminum Co. of America
American Steel & Wire Co.
Bethlehem Steel Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Highland Iron & Steel Co.
International Supply Co.
Jarecki Mfg. Co.
Jones & Laughlin Steel Corp.
Kirk-Morrow Iron Works, Inc.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Reading Iron Co.
Republic Supply Co.
Youngstown Sheet & Tube Co.

Naphtha—
Barnsdall Refineries, Inc.
Deep Rock Oil Corp.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Shell Petroleum Corp.
Sinclair Refining Co.
Youngstown Sheet & Tube Co.
White Oak Refining Co.

Natural Gasoline Plant Equipment—
Alco Products, Inc.
Allegheny Steel Co.
American Tank & Equip. Co.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
Clark Brothers Co.
Continental Supply Co.
Davis Regulator Co.
J. P. Devine Mfg. Co., Inc.
Dresser & Gorton, Inc.
Foster Wheeler Corp.
Joseph Greenspon's Sons Iron & Steel Co.
Griscom-Russell Co.
Hercules Supply Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
McClintic-Marshall Co.
National Supply Co.
Oil Well Supply Co.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
A. O. Smith Corp.
Southwestern Engineering Corp.
Strong, Carlisle & Hammond Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Natural Gasoline Recovery Plants
American Tank & Equip. Co.
E. B. Badger & Sons Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
Clark Brothers Co.
J. P. Devine Mfg. Co., Inc.
Dresser & Gorton, Inc.
Foster Wheeler Corp.
Hercules Supply Co.
Hope Engineering Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
McClintic-Marshall Co.
Oil Well Supply Co.
National Supply Co.
Petroleum Engineering, Inc.
A. O. Smith Corp.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Winkler-Koch Engineering Co.
Wyatt Metal & Boiler Works

Nickel—
International Nickel Co.

Nickel Alloys—
Crane Co.
Harrisburg Pipe & Pipe Bending Co.
Hills-McCanna Co.
International Derrick & Equipment Co.
International Nickel Co., Inc.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Steel Corp.
Republic Supply Co.
Ross-Meehan Foundries Co.
Stockham Pipe & Fittings Co.
Walworth Co.

Nipples—Bell—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Midwest Piping & Supply Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Rapid Fire Prevention Co., Ltd.
Republic Supply Co.

Nipples—Male and Female—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
A. M. Byers Co.
Continental Supply Co.
Crane Co.
Elliott Manufacturing Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Midwest Piping & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Republic Supply Co.
Watson Stillman Co.

Nipples—Special Casing and Line Pipe—
Taubman Supply Corp.

Nipples—Swedge or Swage—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
A. M. Byers Co.
Continental Supply Co.
Crane Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hercules Tool Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
M. W. Kellogg Co.
Larkin Packer Co.
Layne & Bowler Co.
Lucey Products Corp.
Midwest Piping & Supply Co., Inc.
Mooriane Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Supply Co.
Shaffer Tool Works
Texas Steel Co.
Watson Stillman Co.

Nipples—Steam—
Bignall & Keeler Machine Works
Landis Machine Co.
D. S. Mair Machinery Corp.

Nipple Threading Machines—
Bignall & Keeler Machine Works
Landis Machine Co.
D. S. Mair Machinery Corp.

Nitrogen—
Linde Air Products Co.

Nozzles—
Binks Manufacturing Co.
Miles P. Brown Boiler Works
Crane Co.
Hercules Supply Co.
Linde Air Products Co.
Marley Co.
Mooriane Co., Inc.
Murray Tool & Supply Co.
Oxweld Acetylene Co.
Pittsburgh-Des Moines Steel Co.
Taylor Forge & Pipe Works

Nozzles—Spray—
American Tank & Equip. Corp.
Binks Manufacturing Co.
Chain Belt Co.
Continental Supply Co.
Crane Co.
Duriron Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Marley Co.
McClintic-Marshall Co.
National Supply Co.
Republic Supply Co.

Nozzles—Tank—
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
National Supply Co.
Oil Conservation Engineering Co.
Taylor Forge & Pipe Works

Nuts—Lock—
Bethlehem Steel Co.
Brauer Machine & Supply Co.
Walworth Co.

O

Oil and Gas Furnaces—Combination—
Hercules Supply Co.
M. W. Kellogg Co.
D. S. Mair Machinery Corp.
Arthur G. McKee & Co.
National Airoil Burner Co.

Oil and Gas Pipe Line Construction—
Hope Engineering Co.
Linde Air Products Co.
Pittsburgh-Des Moines Steel Co.

Oil Burners—
American Steel Works
Bethlehem Steel Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Gilbert & Barker Mfg. Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
National Airoil Burner Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
W-K-M Co.
John Zinc Co.

Oil Field Hauling—
Dunn Brothers

Oil Filters—
Biggs Boiler Works Co.
Miles P. Brown Boiler Works
Frick-Reid Supply Corp.
General Electric Co.
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Hercules Supply Co.
D. S. Mair Machinery Corp.
I. P. Morris & De LaVergne, Inc.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Henry Vogt Machine Co.

Oil—Fuel—
Barnsdall Refineries, Inc.
Burford Oil Co.
Deep Rock Oil Corp.
Empire Oil & Refining Co.
Gulf Refining Co.
Hercules Supply Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Shell Petroleum Corp.
Skelly Oil Co.
White Oak Refining Co.

Oil—Gas—
Barnsdall Refineries, Inc.
Burford Oil Co.
Deep Rock Oil Corp.
Empire Oil & Refining Co.
Gulf Refining Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Shell Petroleum Corp.
Sinclair Refining Co.
White Oak Refining Co.

Oil—Lubricating—
Barnsdall Refineries, Inc.
Continental Supply Co.
Dearborn Chemical Co.
Deep Rock Oil Corp.
Empire Oil & Refining Co.
Frick-Reid Supply Corp.
Gulf Refining Co.
Hercules Supply Co.
Humble Oil & Refining Co.
International Supply Co.
Magnolia Petroleum Co.
National Supply Co.
Pure Oil Co.
Republic Supply Co.
Shell Petroleum Corp.
Sinclair Refining Co.
Skelly Oil Co.
White Oak Refining Co.
Vacuum Oil Co.

Oil—Tractor—
Barnsdall Refineries, Inc.
Deep Rock Oil Corp.
Gulf Refining Co.
Hercules Supply Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Shell Petroleum Corp.
Sinclair Refining Co.
Skelly Oil Co.
Vacuum Oil Co.

Oiling Devices—
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Gilbert & Barker Mfg. Co.
Hercules Supply Co.
Hills-McCanna Co.
Lunkenheimer Co.
McCord Radiator & Mfg. Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Penberthy Injector Co.
Edward Soph
Vacuum Oil Co.

Oiling Systems—
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Gilbert & Barker Mfg. Co.
Hercules Supply Co.
Hills-McCanna Co.
Lunkenheimer Co.
McCord Radiator & Mfg. Co.
Oil Well Supply Co.
Edward Soph

Oil Reclaiming Process—
J. A. Campbell Co.
I. P. Morris & De LaVergne, Inc.

Oil Savers—
Paul Arbon & Co.
Cameron Iron Works
Continental Supply Co.
Frick-Reid Supply Corp.
Guiberson Corp.
Hamer Oil Tool Co., Ltd.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
Hercules Tool Co.
International Supply Co.
Jarecki Manufacturing Co.
Kerotest Mfg. Co.

Larkin & Co.
Larkin Packer Co.
J. H. McEvoy & Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Improvements Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Regan Forge & Engineering Co.
Republic Supply Co.

Oil Testing Instruments—
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
General Electric Co.
Hercules Supply Co.
Jarecki Mfg. Co.
C. J. Tagliabue Mfg. Co.

Oil Well Cementing—
Baker Oil Tools, Inc.
Brauer Machine & Supply Co.
Erle P. Halliburton Co.

Oil Well Tools—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Brewster Co., Inc.
Byron Jackson Co.
Cameron Iron Works
Columbus Forge & Iron Co.
Continental Supply Co.
Doheny Stone Drill Co.
Elliott Manufacturing Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
Hughes Tool Co.
International Derrick & Equipment Co.
International Supply Co.
LeBus Rotary Tool Works
Lucey Products Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Shaffer Tool Works
Spengler Tool Co.

Orifice Fittings—
Crane Co.
Foster Wheeler Corp.
Foxboro Co., Inc.
Meriam Co.
Metric Metal Works
National Supply Co.
Pittsburgh Equitable Meter Co.
Robinson Orifice Fittings Co.
Westcott & Greis, Inc.

Overshots—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
LeBus Rotary Tool Works
Lucey Products Corp.
National Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Vickers Machine Co.

Oxygen—
Hercules Supply Co.
Linde Air Products Co.
Norvell-Wilder Supply Co.

P

Packer Release—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Larkin & Co.
J. H. McEvoy & Co.
Oil Well Supply Co.
Parkersburg Machine Co.

Packers—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
Guiberson Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
Jarecki Manufacturing Co.
Larkin & Co.
Larkin Packer Co.
Layne & Bowler Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Patterson-Ballagh Corp.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Spang & Co.

Packers—Anchor—
Baash-Ross Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Guiberson Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin & Co.
Larkin Packer Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co
Petroleum Equipment Co. of Texas, Inc.
Spang & Co.

Packers—Control—Head—
Baash-Ross Tool Co.
Cameron Iron Works
Continental Supply Co.
Frick-Reid Supply Corp.
Guiberson Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Improvements Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Shaffer Tool Works

Packers—Hook Wall—
Baash-Ross Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Guiberson Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin & Co.
Larkin Packer Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Spang & Co.

Packers—Liner—
Baash-Ross Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Layne & Bowler Co.
Larkin & Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Spang & Co.

Packers—Pipe Coupling—
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
Larkin & Co.
National Supply Co.
Oil Well Supply Co.

Packers—Tubing—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Cameron Iron Works, Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Guiberson Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin & Co.
Larkin Packer Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Regan Forge & Engineering Co.
Shaffer Tool Works
Spang & Co.

Packers—Wall—
Baash-Ross Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Guiberson Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin & Co.
Larkin Packer Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Spang & Co.

Packing—
Crane Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
Hercules Supply Co.
Jenkin Brothers
Marion Machine Foundry & Supply Co.
Oil Well Supply Co.
Patterson-Ballagh Corp.
Republic Supply Co.

Packing—Asbestos—
Bridgeport Machine Co.
Philip Carey Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hercules Supply Co.
Imperial Belting Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Moorlane Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
E. M. Smith Co.
Vellumoid Co.

Packing—Flexible—Metallic—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lufkin Foundry & Machine Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Packing—Leather—
Continental Supply Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Watson Stillman Co.

Packings—Metallic—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Packing—Rod—
Continental Supply Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
B. F. Goodrich Rubber Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lufkin Foundry & Machine Co.
Moorlane Co., Inc.
Murray Tool & Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Packing—Sheet—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
B. F. Goodrich Rubber Co.
Goodyear Tire & Rubber Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.
E. M. Smith Co.
Vellumoid Co.

Packing—Stuffing Box—
Continental Supply Co.
Duriron Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Moorlane Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Improvements Co.
Oil Well Supply Co.
Patterson-Ballagh Corp.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
E. M. Smith Co.

Paint Guns—
Binks Manufacturing Co.
Hercules Supply Co.
Jno. Muller Co.
Resistcor Engineering Corp.

Painting Machines—Pipe—
Binks Mfg. Co.
Sullivan Machinery Co.

Paints—
Barrett Co.
Bridgeport Machine Co.
Columbian Steel Tank
Joseph Dixon Crucible Co.
Drane-Humphrey Co., Inc.
E. I. Du Pont de Nemours & Co., Inc.
Eagle-Picher Lead Co.
General Paint Corp.
Hercules Supply Co.
Marion Machine Foundry & Supply Co.
McEverlast, Inc.
National Lead Co.
National Pigments & Chemical Co.
National Supply Co.
Nitrose Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Sherwin-Williams Co.
Sullivan Co.
Sullivan Machinery Co.
Technical Products, Inc.
Wailes, Dove-Hermiston Corp.

Paints—Aluminum—
Columbian Steel Tank
Continental Supply Co.
Joseph Dixon Crucible Co.
Drane-Humphrey Co., Inc.
E. I. Du Pont de Nemours & Co., Inc.
Frick-Reid Supply Corp.
General Paint Corp.
Headley Emulsified Products Co.
Hercules Supply Co.
International Supply Co.
McEverlast, Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.
Sherwin-Williams Co.
Sullivan Co.
Technical Products, Inc.
Wailes, Dove-Hermiston Corp.

Paints—Aluminum Powder For—
Aluminum Co. of America
Columbian Steel Tank
General Paint Corp.
Hercules Supply Co.
International Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.
Sherwin-Williams Co.
Sullivan Co.
Technical Products, Inc.

Paints—Asphalt—
Barrett Co.
General Paint Corp.
Headley Emulsified Products Co.
Wailes, Dove-Hermiston Corp.

Paints—Cement—
Continental Supply Co.
General Paint Corp.
Headley Emulsified Products Co.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Republic Supply Co.
Sullivan Co.
Technical Products, Inc.
Wailes, Dove-Hermiston Corp.

Paints—Graphite—
Continental Supply Co.
Joseph Dixon Crucible Co.
E. I. Du Pont de Nemours & Co., Inc.
General Paint Corp.
Hercules Supply Co.
International Supply Co.
Norvell-Wilder Supply Co.
Republic Supply Co.
Sherwin-Williams Co.
Sullivan Co.

Paints—Hot Surface—
Continental Supply Co.
Joseph Dixon Crucible Co.
Drane-Humphrey Co., Inc.
E. I. Du Pont de Nemours & Co., Inc.
General Paint Corp.
Headley Emulsified Products Co.
Hercules Supply Co.
International Supply Co.
Littleford Brothers
Nitrose Co.
Pure Oil Co.
Republic Supply Co.
Sherwin-Williams Co.
Sullivan Co.
Technical Products, Inc.
Wailes, Dove-Hermiston Corp.

Paints—Pipe—
Barrett Co.
Philip Carey Co.
Continental Supply Co.
Drane-Humphrey Co., Inc
E. I. Du Pont de Nemours & Co., Inc.
General Paint Corp.
Hercules Supply Co.
International Supply Co.
McEverlast, Inc.
National Lead Co.
National Supply Co.
Nitrose Co.
Oil Well Supply Co.
Pure Oil Co.
Resistcor Engineering Corp.
Sherwin-Williams Co.
Sullivan Co.
Technical Products, Inc.
Wailes, Dove-Hermiston Corp.

Paints—Roof—
Barrett Co.
Philip Carey Co.
Continental Supply Co.
Joseph Dixon Crucible Co.
Drane-Humphrey Co., Inc.
E. I. Du Pont de Nemours & Co., Inc.
General Paint Corp.
Headley Emulsified Products Co.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pure Oil Co.
Sherwin-Williams Co.
Sullivan Co.
Technical Products, Inc.

Paints—Tank—
Barrett Co.
Columbian Steel Tank
Continental Supply Co.
Joseph Dixon Crucible Co.
Drane-Humphrey Co., Inc
E. I. Du Pont de Nemours & Co., Inc.
Hercules Supply Co.
International Supply Co.
McEverlast, Inc.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Nitrose Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Pure Oil Co.
Sherwin-Williams Co.
Sullivan Co.
Technical Products, Inc.
Wailes, Dove-Hermiston Corp.

Pans—Vacuum—
Allegheny Steel Co.
E. B. Badger & Sons Co.
Fulton Iron Works Co.
Goslin-Birmingham Mfg. Co.
Sowers Manufacturing Co.

Paraffin—Wax Plant Equipment—
Goslin-Birmingham Mfg. Co., Inc.
Griscom-Russell Co.
Hercules Supply Co.
Pure Oil Co.
Henry Vogt Machine Co.

Patterns—Foundry—
Beaumont Iron Works Co.
Gaso Pump & Burner Mfg. Co.
Kirk-Morrow Iron Works, Inc.
National Transit Pump & Machine Co.
Parkersburg Rig & Reel Co.
Ross-Meehan Foundries Co.
Union Machine Co.

Paving—Asphalt—
Barrett Co.
Gulf Refining Co.
Headley Emulsified Products Co

Perforators—Casing—
Acme Fishing Tool Co.
Beaumont Iron Works Co.
Doheny Stone Drill Co.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Supply Co.
National Supply Co.
Spang & Co.

Photography—Aerial—
Engineers Aerial Surveys

Pins—Wrist—
Beaumont Iron Works Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Moser Manufacturing Co.
Jno. Muller Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Pipe—
Aluminum Co. of America
American Rolling Mill Co.
Baash-Ross Tool Co.
Bethlehem Steel Co.
A. M. Byers Co.
Columbian Steel Tank
Continental Supply Co.
Crane Co.
Duriron Co.
Frick-Reid Supply Corp.
Joseph Greenspon's Sons Iron & Steel Co.
Grinnell Co., Inc.
Hercules Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
George B. Limbert & Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
National Tube Co.
Naylor Pipe Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh-Des Moines Steel Co.
Power Piping Co.
Reading Iron Co.
Republic Steel Corp.
Republic Supply Co.
A. O. Smith Corp.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Taubman Supply Corp.
Taylor Forge & Pipe Works
Tulsa Boiler & Machinery Co.
Youngstown Sheet & Tube Co.

Pipe—Brass—
Crane Co.
Foster Wheeler Corp.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
Oil Well Supply Co.

Pipe—Brass Seamless—
Crane Co.
Foster Wheeler Corp.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.

Pipe—Cast Iron—
American Cast Iron Pipe Co.
American Radiator Co.
Beaumont Iron Works Co.
Crane Co.
Frick-Reid Supply Corp.
Goslin-Birmingham Mfg. Co., Inc.
Grinnell Co., Inc.
Hercules Supply Co.
Houston Car Wheel & Machine Co.
International Supply Co.
Oil Well Supply Co.
Union Machine Co.
Walworth Co.
Western Gas Construction Co.

Pipe—Drill—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
Layne & Bowler Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Reading Iron Co.
Republic Steel Corp.
Republic Supply Co.
Spang, Chalfant & Co., Inc.
Spengler Tool Co.
Taubman Supply Corp.
Youngstown Sheet & Tube Co.

Pipe—Galvanized—
American Rolling Mill Co.
Bethlehem Steel Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
Midwest Piping & Supply Co., Inc
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Naylor Pipe Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Steel Corp.
Republic Supply Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Taubman Supply Corp.
Youngstown Sheet & Tube Co.

Pipe Grips—
Continental Supply Co.
Frick-Reid Supply Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.

Pipe Headers—
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
M. W. Kellogg Co.
George B. Limbert & Co.
Midwest Piping & Supply Co.
Oil Well Supply Co.
Power Piping Co.
Reading Iron Co.
Henry Vogt Machine Co.
Walworth Co.

Pipe—Iron—
American Radiator Co.
American Rolling Mill Co.
Continental Supply Co.
Crane Co.
Duriron Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc
Murray Tool & Supply Co.
Naylor Pipe Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Steel Corp.
Republic Supply Co.
Standard Steel Works
Taubman Supply Corp.
Walworth Co.

Pipe—Lapweld—
American Rolling Mill Co.
Baash-Ross Tool Co.
Bethlehem Steel Co.
Bridgeport Machine Co.
Chicago Bridge & Iron Works
Columbian Steel Tank Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
M. W. Kellogg Co.
George B. Limbert & Co.
Lucey Products Corp.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Steel Corp.
Republic Supply Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Taubman Supply Corp.
Youngstown Sheet & Tube Co.
Walworth Co.

Pipe—Lead Lined—
Hercules Supply Co.
National Lead Co.
Reading Iron Co.

Pipe—Line—
American Rolling Mill Co.
Baash-Ross Tool Co.
Bethlehem Steel Co.
Bridgeport Machine Co.
Central Tube Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Joseph Greenspon's Sons Iron & Steel Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
Layne & Bowler Co.
George B. Limbert & Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
National Tube Co.
Naylor Pipe Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Republic Steel Corp.
Republic Supply Co.
A. O. Smith Corp.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Taubman Supply Corp.
Youngstown Sheet & Tube Co.

Pipe—Perforated—
Baash-Ross Tool Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Layne & Bowler Co.
J. H. McEvoy & Co.
Moser Manufacturing Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Pipe—Riveted—
Alco Products, Inc.
Biggs Boiler Works Co.
Crane Co.
Hercules Supply Co.
Kaw Steel Construction Co.
McClintic-Marshall Co.
Moorlane Co., Inc.
Oil Well Supply Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co
Taylor Forge & Pipe Works
Western Gas Construction Co.

Pipe—Steel—
Alco Products, Inc.
Allegheny Steel Co.
American Rolling Mill Co.
Baash-Ross Tool Co.
Bethlehem Steel Co.
Biggs Boiler Works Co.
Bridgeport Machine Co.
Chicago Bridge & Iron Works
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Joseph Greenspon's Sons Iron & Steel Co.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
Layne & Bowler Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Naylor Pipe Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh-Des Moines Steel Co.
Power Piping Co.
Republic Steel Corp.
Republic Supply Co.
A. O. Smith Corp.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Taubman Supply Corp.
Taylor Forge & Pipe Works
Youngstown Sheet & Tube Co.

Pipe—Steel—Seamless—
Allegheny Steel Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Joseph Greenspon's Sons Iron & Steel Co.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
Layne & Bowler Co.
George B. Limbert & Co.
Lucey Products Corp.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Power Piping Co.
Republic Supply Co.
Spang, Chalfant & Co., Inc.
Timken Roller Bearing Co.
Taubman Supply Corp.
Taylor Forge & Pipe Works
Youngstown Sheet & Tube Co.

Pipe—Welded—
Alco Products, Inc.
American Rolling Mill Co.
Biggs Boiler Works Co.
Bethlehem Steel Co.
Butler Manufacturing Co.
Chicago Bridge & Iron Works
Columbian Steel Tank Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Joseph Greenspon's Sons Iron & Steel Co.
Hercules Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
Kaw Steel Construction Co.
M. W. Kellogg Co.
George B. Limbert & Co.
McClintic-Marshall Co.
Midwest Piping & Supply Co., Inc.
National Supply Co.
National Tube Co.
Naylor Pipe Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Iron Works Co.
Reading Iron Co.
Republic Steel Corp.
Republic Supply Co.
A. O. Smith Corp.
Spang-Chalfant & Co., Inc.
South Chester Tube Co.
Youngstown Sheet & Tube Co.
Taubman Supply Corp.
Taylor Forge & Pipe Works
Western Gas Construction Co.

Pipe—Wood—
Oil Well Supply Co.

Pipe—Wrought Iron—
Biggs Boiler Works Co.
Bridgeport Machine Co.
A. M. Byers Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Joseph Greenspon's Sons Iron & Steel Co.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Layne & Bowler Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
Naylor Pipe Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Supply Co.
South Chester Tube Co.

Pipe Bends—
Continental Supply Co.
Crane Co.
Duriron Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
M. W. Kellogg Co.
George B. Limbert & Co.
Midwest Piping & Supply Co.
Moorlane Co., Inc.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Oil Well Supply Co.
Power Piping Co.
Reading Iron Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Walworth Co.
Westcott Valve Co.

Pipe-Bending Equipment—
Allsteel Products Mfg. Co., Inc.
American Steel Works
Toledo Pipe Threading Machine Co.
Watson-Stillman Co.

Pipe Cleaning Machines—
American Steel Works
Dearborn Chemical Co.
Hercules Supply Co.
W-K-M Co.

Pipe Coils—
Alco Products, Inc.
American Radiator Co.
Crane Co.
Frick-Reid Supply Corp.
Goslin-Birmingham Mfg. Co., Inc.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
National Lead Co.
Oil Well Supply Co.
Power Piping Co.
Reading Iron Co.
Tulsa Boiler & Machinery Co.

Pipe Cutting Machines—
Bignall & Keeler Machine Works
Cameron Iron Works, Inc.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Jarecki Manufacturing Co.
Landis Machine Co.
D. S. Mair Machinery Corp.
National Lead Co.
Oil Well Supply Co.
Republic Supply Co.

Pipe—Joint Compound—
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Sullivan Co.
Wailes, Dove-Hermiston Corp.

Pipe Line Equipment—
American Steel Works
Binks Manufacturing Co.
Buckeye Traction Ditcher Co.
Byers Machine Co.
Clark Brothers Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Northwest Engineering Co.
Oil Well Supply Co.
Reading Iron Co.
Resistcor Engineering Corp.
Sullivan Machinery Co.
Trackson Co.
Walworth Co.
Wilson-Snyder Mfg. Co.
W-K-M Co.

Pipe Line Stringing—
Dunn Brothers

Pipe Saddles—
Beaumont Iron Works Co.
Bridgeport Machine Co.
Chicago Bridge & Iron Works
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
George B. Limbert & Co.
McClintic-Marshall Co.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Taylor Forge & Pipe Works
Walworth Co.

Pipe Screwing Machines—
Buckeye Traction Ditcher Co.
Hercules Supply Co.
Landis Machine Co., Inc.
Oil Well Supply Co.

Pipe—Straighteners—
Baash-Ross Tool Co.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Watson Stillman Co.

Pipe Suspension Device—
Crane Co.
Hercules Supply Co.
International Supply Co.
Oil Well Improvements Co.
Truscon Steel Co.
Walworth Co.

Pipe Threading and Cutting Machines—
Bignall & Keeler Machine Works
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Jarecki Manufacturing Co.
Landis Machine Co.
D. S. Mair Machinery Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Nye Tool & Machine Works
Oil Well Supply Co.
Toledo Pipe Threading Machine Co.

Pipe Threading, Cutting and Perforating—
Taubman Supply Corp.

Pipe Threading Machines—
Axelson Mfg. Co., Ltd.
Bignall & Keeler Machine Works
Continental Supply Co.
Crane Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Jarecki Manufacturing Co.
Landis Machine Co., Inc.
National Supply Co.
Norvell-Wilder Supply Co.
Nye Tool & Machine Works
Oil Well Supply Co.
Republic Supply Co.
Toledo Pipe Threading Machine Co.
Walworth Co.

Pipe Tools—
Armstrong Bros. Tool Co.
Baash-Ross Tool Co.
Byron Jackson Co.
Continental Supply Co.
Crane Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Landis Machine Co.
George B. Limbert & Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Spang, Chalfant & Co., Inc.
Trimont Manufacturing Co.
Walworth Co.

Pipe—Used (for every purpose)—
Joseph Greenspon's Sons Iron & Steel Co.
Taubman Supply Corp.

Piping—Condenser—
Alco Products, Inc.
American Radiator Co.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Midwest Piping & Supply Co., Inc.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Reading Iron Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Piping—Fabricated—
Chicago Bridge & Iron Works
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
M. W. Kellogg Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
Oil Well Supply Co.
Power Piping Co.
Reading Iron Co.
Tulsa Boiler & Machinery Co.
Walworth Co.
Westcott Valve Co.

Piping—Steel and Iron—
American Rolling Mill Co.
Biggs Boiler Works Co.
Chicago Bridge & Iron Works
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Joseph Greenspon's Sons Iron & Steel Co.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc
Oil Well Supply Co.
Power Piping Co.
Reading Iron Co.
Republic Steel Corp.
Youngstown Sheet & Tube Co.
Walworth Co.
Westcott Valve Co.

Piston Heads—Engine—
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
I. P. Morris & De La Vergne, Inc
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Reading Iron Co.
Union Machine Co.

Piston Rings—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Houston Car Wheel & Machine Co.
International Derrick & Equipment Co.
International Supply Co.
Jno. Muller Co.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Union Machine Co.

Pistons—
Aluminum Co. of America
Allen-Oliver Co.
Baash-Ross Tool Co.
Byron Jackson Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Derrick & Equipment Co.
I. P. Morris & De La Vergne, Inc.
Jno. Muller Co.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Patterson-Ballagh Corp.
Reading Iron Co.
Republic Supply Co.
Union Machine Co.

Pistons—Expansion—
Baash-Ross Tool Co.
Continental Supply Co.
Hercules Supply Co.
National Supply Co.
Oil Well Supply Co.

Pistons—Slush Pump—
Allen-Oliver Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Byron Jackson Co.
California Manufacturing & Engineering Co.
Continental Equipment Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Guiberson Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Lucey Products Corp.
MacClatchie Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Patterson-Ballagh Corp.
Republic Supply Co.
Titusville Iron Works Co.

Pitmans—Heads—
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
National Supply Co.
Oil Well Supply Co.
Vickers Machine Co.

Pitmans—
Axelson Mfg. Co., Ltd.
Beaumont Iron Works Co.
California Manufacturing & Engineering Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Wertzberger Derrick Co.

Plants—Ice Making—
Alco Products, Inc.
Ingersoll-Rand Co.
I. P. Morris & De La Vergne, Inc.
Henry Vogt Machine Co.

Plates—Boilers—
American Rolling Mill Co.
Bethlehem Steel Co.
Continental Supply Co.
Freeman Manufacturing Co.
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
North American Car Corp.
Oil Well Supply Co.
Reading Iron Co.
Republic Steel Corp.
Sun Shipbuilding & Drydock Co
Youngstown Sheet & Tube Co.

Plates—Bronze—For Orifice Meters—

Plates—For Tanks—
Aluminum Co. of America
American Rolling Mill Co.
American Tank & Equipment Corp.
Bethlehem Steel Co.
Miles P. Brown Boiler Works
A. M. Byers Co.
Chicago Bridge & Iron Works
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
National Tank Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Pressed Steel Car Co.
Republic Steel Corp.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works
Youngstown Sheet & Tube Co.

Plates—Steel—
American Rolling Mill Co.
American Tank & Equipment Corp.
Bethlehem Steel Co.
Miles P. Brown Boiler Works
Columbian Steel Tank Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Jones & Laughlin Steel Corp.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Pittsburgh-Des Moines Steel Co.
Republic Steel Corp.
Tulsa Boiler & Machinery Co.
Wickwire Spencer Steel Co.
Wyatt Metal & Boiler Works
Youngstown Sheet & Tube Co.

Plates—Still Bottom—
Allegheny Steel Co.
Bethlehem Steel Co.
Miles P. Brown Boiler Works
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
Petroleum Iron Works Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Plates—Surface—
Axelson Mfg. Co., Ltd.

Plates—Wrought Iron—
Highland Iron & Steel Co.

Platforms—Steel—
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Lee C. Moore & Co., Inc.
North American Car Corp.
Parkersburg Rig & Reel Co.
Tulsa Boiler & Machinery Co.
Youngstown Sheet & Tube Co.

Plug Cocks—Acid—
Crane Co.
Duriron Co.
B. F. Goodrich Rubber Co
Hercules Supply Co.
National Lead Co.
William Powell Co.
Reading Steel Casting Co.
Edward Soph
Walworth Co.

Plugs—
Baash-Ross Tool Co.
Crane Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kennedy Valve Mfg. Co.
LeBus Rotary Tool Works
Moser Manufacturing Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Spang & Co.
Stockham Pipe & Fittings Co.
Walworth Co.
Henry Vogt Machine Co.

Plugs—Bull—
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Elliott Manufacturing Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Guiberson Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
Hills-McCanna Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Lucey Products Corp.
Moorlane Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Shaffer Tool Works
Texas Steel Co.

Plugs—Cement—
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Plugs—Elevator Hoisting—
Continental Supply Co.
Doheny Stone Drill Co.
Hercules Supply Co.
National Supply Co.
Oil Well Supply Co.

Plugs—Lead—
American Iron & Machine Works Co.
Parkersburg Machine Co.
Spang & Co.

Plugs—Still—
Crane Co.
Hercules Supply Co.
Hills-McCanna Co.
Edward Soph

Plugs—Wash—
Guiberson Corp.
Hercules Supply Co.
Hills-McCanna Co.
Layne & Bowler Co.
J. H. McEvoy & Co.

Plug Valves—
Bartlesville Supply Co.
Continental Supply Co.
Crane Co.
Doheny Stone Drill Co.
Duriron Co.
Edward Valve & Mfg. Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Merco Nordstrom Valve Co.
National Lead Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Taubman Supply Corp.
Henry Vogt Machine Co.

Plug Valves—High Pressure—High Temperature—
Bartlesville Supply Co.
Chapman Valve Mfg. Co.
Crane Co.
Doheny Stone Drill Co.
Edward Valve & Mfg. Co.
Elliott Manufacturing Co.
Hercules Supply Co.
International Supply Co.
Merco Nordstrom Valve Co.
National Lead Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co Inc.
Taubman Supply Corp.
Henry Vogt Machine Co.

Plumb Bobs—Oil Gauging—
Lufkin Rule Co.

Poles—Creosoted—
Ayer & Lord Tie Co.

Ponds—Spray Cooling—
Binks Mfg. Co.

Posts—Fence—
American Steel & Wire Co.
Anchor Post Fence Co.
Ayer & Lord Tie Co.
Page Steel & Wire Co.

Posts—Fence Treated—
Ayer & Lord Tie Co.

Posts—Jack—
Emsco Derrick & Equipment Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.
Wertzberger Derrick Co.

Posts—Sampson—
Beaumont Iron Works Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Wertzberger Derrick Co.

Posts—Steel Bull Wheel—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
O'Brien Steel Construction Co., Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Wertzberger Derrick Co.

Potentiometers—
Brown Instrument Co.
General Electric Co.

Pots—Pouring—
American Steel Works
Hercules Supply Co.
Littleford Brothers
Resistcor Engineering Corp.

Powder—Aluminum—
Aluminum Co. of America
General Paint Corp.
Hercules Supply Co.
International Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.
Sullivan Co.
Technical Products, Inc.

Powder—Bleaching—
Hercules Supply Co.

Powder—For Paints—
General Paint Corp.
Hercules Supply Co.
Parkersburg Rig & Reel Co.
Sullivan Co.

Power Plant Auxiliaries—
C. F. Braun & Co.
Chain Belt Co.
Continental Supply Co.
Foster Wheeler Corp.
General Electric Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Link Belt Co.
Westinghouse Electric & Mfg. Co.

Powers—Air and Gas Lift—
Beaumont Iron Works Co.
Continental Supply Co.
Hercules Supply Co.
National Supply Co.
Oil Well Supply Co.

Powers—Band Wheel—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Joseph Reid Gas Engine Co.
Titusville Iron Works Co.
Union Machine Co.

Powers—Electric—
Bridgeport Machine Co.
Continental Supply Co.
General Electric Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Lufkin Foundry & Machine Co.
Moser Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Toledo Pipe Threading Machine Co.
Westinghouse Electric & Mfg. Co.

Powers—Gasoline Engine—
Bridgeport Machine Co.
Buda Engine Service Co. of Tulsa
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Lucey Products Corp.
Moser Manufacturing Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Young Engine Corp.

Powers—Geared—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Moser Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Joseph Reid Gas Engine Co.
Titusville Iron Works Co.
Union Machine Co.

Powers—Pony—
Continental Supply Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Oil Well Supply Co.

Powers—Portable—
Allsteel Products Mfg. Co., Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Toledo Pipe Threading Machine Co.

Powers—Pumping—
Allsteel Products Mfg. Co., Inc.
Baash-Ross Tool Co.
Continental Supply Co.
Cooper-Bessemer Corp.
Frick-Reid Supply Corp.
Guiberson Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Moser Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Joseph Reid Gas Engine Co.
Titusville Iron Works Co.
Union Machine Co.

Preheaters—
Alco Products, Inc.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Butler Manufacturing Co.
Cameron Iron Works, Inc.
J. A. Campbell Co.
Foster Wheeler Corp.
Griscom-Russell Co.
Hercules Supply Co.
Jackson Engineering Corp.
M. W. Kellogg Co.

Presses—Filter—
Bethlehem Steel Co.
General Electric Co.
Goslin-Birmingham Mfg. Co., Inc.
Hercules Supply Co.
D. S. Mair Machinery Corp.
McClintic-Marshall Co.
Arthur G. McKee & Co.
Henry Vogt Machine Co.

Pressure—Vessels—
Alco Products, Inc.
American Car & Foundry Co.
American Steel Works
Bethlehem Steel Co.
Biggs Boiler Works Co.
C. F. Braun & Co.
Chicago Bridge & Iron Works
J. P. Devine Mfg. Co., Inc.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Petroleum Iron Works Co.
A. O. Smith Corp.
Sowers Manufacturing Co.
Taylor Forge & Pipe Works
Henry Vogt Machine Co.

Preventers—Blowout—
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bridgeport Machine Co.
Cameron Iron Works, Inc.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Houston Car Wheel & Machine Co.
International Supply Co.
Kerotest Manufacturing Co.
Lucey Products Corp.
MacClatchie Manufacturing Co.
J. H. McEvoy & Co.
Murray Tool & Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Shaffer Tool Works

Primer—For Metal Surfaces—
Barrett Co.
Philip Carey Co.
E. I. Du Pont de Nemours & Co., Inc.
Eagle-Picher Lead Co.
Hercules Supply Co.
Murray Tool & Supply Co.
Resistcor Engineering Corp.
Technical Products, Inc.

Processes—Cracking—
Foster Wheeler Corp.
M. W. Kellogg Co.
National Supply Co.
Winkler-Koch Engineering Co.

Protectors—Casing—Drill Pipe—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
B. F. Goodrich Rubber Co.
Hercules Supply Co.
International Supply Co.
Lucey Products Corp.
National Supply Co.
Oil Well Supply Co.
Patterson-Ballagh Corp.
Republic Supply Co.
Spang & Co.
Youngstown Sheet & Tube Co.

Processes—Oil Dehydrating—
Tretolite Co.
Vez Co.

Processes—Oil Reclaiming—
Tretolite Co.
Vez Co.

Propane—
Warren Petroleum Co.

Prospecting—Electrical, Geophysical and Structure—
Swedish American Prospecting Corp.

Protectors—Gauge Glass—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Hercules Supply Co.
International Supply Co.
Oil Well Supply Co.

Protectors—Tubing—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Oil Well Supply Co.
Patterson-Ballagh Corp.
Smith Separator Co.
Youngstown Sheet & Tube Co.

Provers—Meters—
Hercules Supply Co.
National Supply Co.

Pullers—Collar—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Hercules Supply Co.
International Supply Co.
Oil Well Supply Co.

Pullers—Liner—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Gardner-Denver Co.
Globe Oil Tools Co.
Grant Oil Tool Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
MacClatchie Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Pullers—Valve Seat—
Baash-Ross Tool Co.
Brauer Machine & Supply Co.
Byron Jackson Co.
California Manufacturing & Engineering Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
MacClatchie Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Titusville Iron Works Co.

Pulleys—Casing—
Baash-Ross Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
International Derrick & Equipment Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Pulleys—Friction Clutch—
Allis-Chalmers Mfg. Co.
Beaumont Iron Works Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Foote Bros. Gear & Machine Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Link Belt Co.
Lucey Products Corp.
National Supply Co.
Oil Well Supply Co.
Joseph Reid Gas Engine Co.

Pulleys—Wood, Iron and Steel—
Allis-Chalmers Mfg. Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lufkin Foundry & Machine Co.
National Supply Co.
Oil Well Supply Co.

Pulling Machines—
Allsteel Products Mfg. Co., Inc.
Continental Supply Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Supply Co.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Resistcor Engineering Corp.
Star Drilling Machine Co.

Pulverized Fuel Equipment—
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Jackson Engineering Corp.
D. S. Mair Machinery Corp.
National Supply Co.

Pumping and Pulling Motors—Electric—
Louis Allis Co.
Allis-Chalmers Mfg. Co.
Bridgeport Machine Co.
Continental Supply Co.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Westinghouse Electric & Mfg. Co.

Pumping—Equipment—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Axelson Mfg. Co., Ltd.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Equipment Co.
Continental Supply Co.
Dayton-Dowd
Economy Pump & Oil Tool Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
B. G. Goble Mfg. Co.
Goulds Pumps, Inc.
Guiberson Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Moorlane Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Novo Engine Co.
Oil Well Supply Co.

Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Petroleum Equipment Co. of Texas, Inc.
Prescott Co.
Republic Supply Co.
Stacey Engineering Co.
Union Machine Co.
Walworth Co.
Wertzberger Derrick Co.
Westco-Chippewa Pump Co.
Westinghouse Electric & Mfg. Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumping Front—
Emsco Derrick & Equipment Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
O'Brien Steel Construction Co., Inc.
Parkersburg Rig & Reel Co.
Wertzberger Derrick Co.

Pumping Gear Units—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
B. G. Goble Mfg. Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Link Belt Co.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Moorlane Co., Inc.
National Supply Co.
Oil Well Supply Co.
Joseph Reid Gas Engine Co.
Union Machine Co.
Westinghouse Electric & Mfg. Co.

Pumping Hangers—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.

Pumping Powers—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
Public Service Co. of Oklahoma.
Joseph Reid Gas Engine Co.
Stork Engineering Co.
Titusville Iron Works Co.
Union Machine Co.

Pumps—Absorption—
American Steam Pump Co.
Byron Jackson Co.
Continental Supply Co.
Dayton-Dowd
Gardner-Denver Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
National Supply Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.

Pumps—Acid—
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Continental Supply Co.
Dayton-Dowd
Duriron Co.
Gardner-Denver Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Hills-McCanna Co.
Ingersoll-Rand Co.
Moorlane Co., Inc.
National Lead Co.
National Supply Co.
National Transit Pump & Machine Co.
Oliver United Filters, Inc.
Edward Soph
Stacey Engineering Co.
Titusville Iron Works Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Air—
American Steam Pump Co.
Chicago Pneumatic Tool Co.
Continental Supply Co.
Foster Wheeler Corp.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Stacey Engineering Co.
Worthington Pump & Machinery Corp.

Pumps—Air Lift—
American Steam Pump Co.
Chicago Pneumatic Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Hercules Supply Co.
Ingersoll-Rand Co.
National Supply Co.
Stacey Engineering Co.
Sullivan Machinery Co.
Worthington Pump & Machinery Corp.

Pumps—Asphalt—
Byron Jackson Co.
Gardner-Denver Co.
Hercules Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Stacey Engineering Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Automatic Feed—
American Steam Pump Co.
Bridgeport Machine Co.
Byron Jackson Co.
Dayton-Dowd
Gardner-Denver Co.
Goulds Pumps, Inc.
Hercules Supply Co.
International Supply Co.
National Transit Pump & Machine Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Worthington Pump & Machinery Corp.

Pumps—Boiler Feed—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Byron Jackson Co.
California Manufacturing & Engineering Co.
Continental Supply Co.
Dayton-Dowd
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Hills-McCanna Co.
Ingersoll-Rand Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Brine—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Continental Supply Co.
Dayton-Dowd
Gardner-Denver Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
Moorlane Co., Inc.
National Supply Co.
National Transit Pump & Machine Co.
Oliver United Filters, Inc.
Edward Soph
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Bulk and Service Station—
Allis-Chalmers Mfg. Co.
American Steel Works
Byron Jackson Co.
Gardner-Denver Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
Leader Iron Works, Inc.
Stacey Engineering Co.
Standard Steel Works
Worthington Pump & Machinery Corp.

Pumps—Centrifugal—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Chain Belt Co.
Continental Supply Co.
Dayton-Dowd
Duriron Co.
Emsco Derrick & Equipment Co.
Foster Wheeler Corp.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
M. W. Kellogg Co.
Moorlane Co., Inc.
National Equipment Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Novo Engine Co.
Joseph Reid Gas Engine Co.
Edward Soph
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Chemical Proportioning—
American Steam Pump Co.
Byron Jackson Co.
Dayton-Dowd
Duriron Co.
Gardner-Denver Co.
Goulds Pumps, Inc.
Hills-McCanna Co.
Ingersoll-Rand Co.
National Transit Pump & Machine Co.
Edward Soph
Stacey Engineering Co.
Worthington Pump & Machinery Corp.

Pumps—Circulating—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Continental Supply Co.
Dayton-Dowd
Duriron Co.
Foster Wheeler Corp.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Moorlane Co., Inc.
National Supply Co.
National Transit Pump & Machine Co.
Stacey Engineering Co.
Union Machine Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Clay Handling—
American Steam Pump Co.
Byron Jackson Co.
Dayton-Dowd
Duriron Co.
Gardner-Denver Co.
Goulds Pumps, Inc.
Hills-McCanna Co.
National Transit Pump & Machine Co.
Edward Soph
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Condensate—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Byron Jackson Co.
Dayton-Dowd
Foster Wheeler Corp.
Gardner-Denver Co.
Goulds Pumps, Inc.
Ingersoll-Rand Co.
National Transit Pump & Machine Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Condenser—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Byron Jackson Co.
Chicago Pneumatic Tool Co.
Dayton-Dowd
Foster Wheeler Corp.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
National Transit Pump & Machine Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Worthington Pump & Machinery Corp.

Pumps—Corrosion Resisting—
Oliver United Filters, Inc.

Pumps—Deep Well—
American Steam Pump Co.
American Well Works
Bradford Motor Works, Inc.
Byron Jackson Co.
Chain Belt Co.
Continental Supply Co.
Economy Oil Tool Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Goulds Pumps, Inc.
Guiberson Corp.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Jarecki Manufacturing Co.
Layne & Bowler Co.
National Supply Co.
Novo Engine Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Shaffer Tool Works
Westco-Chippewa Pump Co.
Worthington Pump & Machinery Corp.

Pumps—Direct Driven—
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Layne & Bowler Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Prescott Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Distributors—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Byron Jackson Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
Westco-Chippewa Pump Co.

Pumps—Electric—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Penberthy Injector Co.
Prescott Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Fire—
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Dayton-Dowd
Gardner-Denver Co.
Goulds Pumps, Inc.
Ingersoll-Rand Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Worthington Pump & Machinery Corp.

Pumps—Fuel—Oil—
Allegheny Steel Co.
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
California Manufacturing & Engineering Co.
Dayton-Dowd
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Gilbert & Barker Mfg. Co.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
National Airoil Burner Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Worthington Pump & Machinery Corp.

Pumps—Fuel Oil Transfer—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Byron Jackson Co.
Dayton-Dowd
Frick-Reid Supply Corp.
Gardner-Denver Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Fluid Packed—
Byron Jackson Co.
Continental Supply Co.
Dayton-Dowd
Gardner-Denver Co.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Westco-Chippewa Pump Co.

Pumps—Fullers Earth—
American Steam Pump Co.
Byron Jackson Co.
Dayton-Dowd
Gardner-Denver Co.
Hercules Supply Co.
Hills-McCanna Co.
National Transit Pump & Machine Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Worthington Pump & Machinery Corp.

Pumps—Gasoline—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Byron Jackson Co.
Continental Supply Co.
Dayton-Dowd
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Gilbert & Barker Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
International Supply Co.
Ingersoll-Rand Co.
National Equipment Corp.
National Supply Co.
National Transit Pump & Machine Co.
Prescott Co.
Stacey Engineering Co.
Standard Steel Works
Westco-Chippewa Pump Co.
Worthington Pump & Machinery Corp.

Pumps—Gear Driven—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Prescott Co.
Stacey Engineering Co.
Worthington Pump & Machinery Corp.

Pumps—Hand—
Baker Oil Tools, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Gilbert & Barker Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Watson Stillman Co.

Pumps—Hot Oil—
Allegheny Steel Co.
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Byron Jackson Co.
Continental Supply Co.
Dayton-Dowd
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
M. W. Kellogg Co.
National Airoil Burner Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Hydraulic—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Baker Oil Tools, Inc.
Byron Jackson Co.
Dayton-Dowd
Elliott Manufacturing Co.
Gardner-Denver Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Penberthy Injector Co.
Prescott Co.
Watson Stillman Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Loading and Unloading—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Columbian Steel Tank
Continental Supply Co.
Dayton-Dowd
Gardner-Denver Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Prescott Co.
Stacey Engineering Co.
Standard Steel Works
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Lubricating—
Byron Jackson Co.
Dayton-Dowd
Frick-Reid Supply Corp.
Gardner-Denver Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Hills-McCanna Co.
Manzel Brothers Co.
McCord Radiator & Mfg. Co.
National Supply Co.
National Transit Pump & Machine Co.
Edward Soph
Stacey Engineering Co.
Watson Stillman Co.

Pumps—Mine—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Dayton-Dowd
Gardner-Denver Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
Layne & Bowler Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pomona Pump Co.
Prescott Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Multiplex—
American Well Works
Byron Jackson Co.
Frick-Reid Supply Corp.
Goulds Pumps, Inc.
Hercules Supply Co.
Layne & Bowler Co.
National Supply Co.
Oil Well Supply Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Multistage—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works

Byron Jackson Co.
Dayton-Dowd
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
Layne & Bowler Co.
National Supply Co.
Oil Well Supply Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Pipe Line—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Byron Jackson Co.
Continental Supply Co.
Dayton-Dowd
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Prescott Co.
Stacey Engineering Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Plunger—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Bradford Motor Works, Inc.
Chain Belt Co.
Continental Supply Co.
Economy Pump & Oil Tool Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Gilbert & Barker Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Hills-McCanna Co.
Charles N. Hough Mfg. Co.
Ingersoll-Rand Co.
International Supply Co.
National Equipment Corp.
National Supply Co.
National Transit Pump & Machine Co.
Novo Engine Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Equipment Co. of Texas, Inc.
Prescott Co.
Watson Stillman Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Portable—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Chain Belt Co.
Continental Supply Co.
Dayton-Dowd
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
National Equipment Corp.
National Supply Co.
Novo Engine Co.
Oil Well Supply Co.
Resistcor Engineering Corp.
Stacey Engineering Co.
Watson Stillman Co.
Westco-Chippewa Pump Co.
Worthington Pump & Machinery Corp.

Pumps—Power—
American Steam Pump Co.
Chain Belt Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Novo Engine Co.
Oil Well Supply Co.
Pomona Pump Co.
Prescott Co.
Stacey Engineering Co.
Titusville Iron Works Co.
Watson Stillman Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Refinery—
Allegheny Steel Co.
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Continental Supply Co.
Dayton-Dowd
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pomona Pump Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Reversing—
Hercules Supply Co.
Stacey Engineering Co.

Pumps—Rod Line—
Continental Supply Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
International Supply Co.
National Supply Co.
National Transit Pump & Ma-

Pumps—Rotary—
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Goulds Pumps, Inc.
Hercules Supply Co.
International Supply Co.
Leader Iron Works, Inc.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Stacey Engineering Co.
Standard Steel Works
Westco-Chippewa Pump Co.
Worthington Pump & Machinery Corp.

Pumps—Sand—
Acme Fishing Tool Co.
Allis-Chalmers Mfg. Co.
Bridgeport Machine Co.
Byron Jackson Co.
Chain Belt Co.
Continental Supply Co.
Frick-Reid Supply Corp.
C. M. Heeter Sons & Co., Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
Jarecki Manufacturing Co.
Larkin & Co.
Larkin Packer Co.
Miller Sand Pump Co.
Murray Tool & Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.

Pumps—Sludge—
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Chain Belt Co.
Continental Supply Co.
Dayton-Dowd
Duriron Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Murray Tool & Supply Co.
National Equipment Corp.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Edward Soph
Stacey Engineering Co.
Titusville Iron Works Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Slush—
Allsteel Products Mfg. Co., Inc.
American Steam Pump Co.
Bridgeport Machine Co.
Byron Jackson Co.
Chain Belt Co.
Continental Supply Co.
Dayton-Dowd
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Prescott Co.
Republic Supply Co.
Resistcor Engineering Corp.
Stacey Engineering Co.
Titusville Iron Works Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Steam—
American Steam Pump Co.
Bridgeport Machine Co.
Chain Belt Co.
Continental Supply Co.
Dayton-Dowd
Duriron Co.
Foster Wheeler Corp.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Suction—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Bridgeport Machine Co.
Chain Belt Co.
Continental Supply Co.
Dayton-Dowd
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
National Equipment Corp.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Worthington Pump & Machinery Corp.

Pumps—Sump—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Continental Supply Co.
Dayton-Dowd
Duriron Co.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Penberthy Injector Co.
Pomona Pump Co.
Westco-Chippewa Pump Co.
Worthington Pump & Machinery Corp.

Pumps—Tar—
American Steam Pump Co.
Dayton-Dowd
Gardner-Denver Co.
Goulds Pumps, Inc.
National Supply Co.
National Transit Pump & Machine Co.
Stacey Engineering Co.
Standard Steel Works
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Transfer—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
Byron Jackson Co.
Continental Supply Co.
Dayton-Dowd
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
National Supply Co.
National Transit Pump & Machine Co.
Stacey Engineering Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Triplex—
Chain Belt Co.
Continental Supply Co.
Dayton-Dowd
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
National Equipment Corp.
National Supply Co.
National Transit Pump & Machine Co.
Novo Engine Co.
Prescott Co.
Watson Stillman Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Turbine—Type—
Allis-Chalmers Mfg. Co.
American Well Works
Byron Jackson Co.
Continental Equipment Co.
Dayton-Dowd
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
Layne & Bowler Co.
National Supply Co.
Norvell-Wilder Supply Co.
Pomona Pump Co.
Edward Soph
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Co.
Worthington Pump & Machinery Corp.

Pumps—Vacuum—
Alco Products, Inc.
American Steam Pump Co.
Chicago Pneumatic Tool Co.
Continental Supply Co.
Foster Wheeler Corp.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
National Supply Co.
Stacey Engineering Co.
Union Machine Co.
Worthington Pump & Machinery Corp.

Pumps—Vacuum Receivers—
Oliver United Filters, Inc.

Pumps—Walking Beam—
American Well Works
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
International Supply Co.
National Supply Co.
National Transit Pump & Machine Co.

Pumps—Water—
Allis-Chalmers Mfg. Co.
American Steam Pump Co.
American Well Works
Byron Jackson Co.
Chain Belt Co.
Continental Supply Co.
Dayton-Dowd
Frick-Reid Supply Corp.
Gardner-Denver Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Hercules Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Layne & Bowler Co.
Lucey Products Corp.
National Equipment Corp.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pomona Pump Co.
Prescott Co.
Joseph Reid Gas Engine Co.
Stacey Engineering Co.
Westco-Chippewa Pump Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.

Pumps—Wire Line—
Black Wire Rope Co.
Bradford Motor Works, Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Supply Co.
Larkin Packer Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Parkersburg Machine Co.

Pumps—Working Barrel—
American Steam Pump Co.
American Well Works
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Economy Pump & Oil Tool Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Gardner-Denver Co.
Hercules Supply Co.
Hopper Machine Works, Inc.
Charles N. Hough Mfg. Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Shaffer Tool Works

Purifiers—
Griscom-Russell Co.
Hercules Supply Co.
Leader Iron Works, Inc.
Marley Co.
Stacey Engineering Co.

Purifiers—Air—
Hercules Supply Co.
Leader Iron Works, Inc.

Purifiers—Gas—
Griscom-Russell Co.
Hercules Supply Co.
Leader Iron Works, Inc.
Marley Co.
Western Gas Construction Co.
Stacey Engineering Co.

Purifiers—Oil—
Griscom-Russell Co.
Hercules Supply Co.
Leader Iron Works, Inc.
Westinghouse Electric & Mfg. Co.

Purifiers—Oil Absorption—
Hercules Supply Co.
Southwestern Eng.neering Corp.

Purifiers—Steam—
Griscom-Russell Co.
Leader Iron Works, Inc.
Marley Co.

Purifiers—Water—
Griscom-Russell Co.
Western Gas Construction Co.

Pyrometers—
Allegheny Steel Co.
Bristol Co.
Brown Instrument Co.
Continental Supply Co.
National Supply Co.
Taylor Instrument Co.
Westcott & Greis, Inc.

R

Rackers—Pipe—
American Iron & Machine Works Co.

Racks—Loading—
Black, Sivalls & Bryson, Inc.
Crane Co.
Dresser & Gorton, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Arthur G. McKee & Co.
Wyatt Metal & Boiler Works

Radiators—
Crane Co.
Hercules Supply Co.
Jno. Muller Co.

Radiators—Automobile—
McCord Radiator & Mfg. Co.

Rasps—
Acme Fishing Tool Co.
Continental Supply Co.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Spang & Co.

Ratchet Pipe Cutters—
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Toledo Pipe Threading Machine Co.
Walworth Co.

Ratchet Pipe Threaders—
Armstrong Bros. Tool Co.
Continental Supply Co.
Crane Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Nye Tool & Machine Works
Oil Well Supply Co.
Republic Supply Co.
Toledo Pipe Threading Machine Co.
Walworth Co.

Ratchet Stock and Dies—
Armstrong Bros. Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Nye Tool & Machine Works
Oil Well Supply Co.
Republic Supply Co.
Toledo Pipe Threading Machine Co.
Walworth Co.

Reamers—
Acme Fishing Tool Co.
Alco Tool Co., Ltd.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
Grant Oil Tool Co.
Guiberson Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Landis Machine Co.
MacClatchie Mfg. Co.
Jno. Muller Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Nye Tool & Machine Works
Oil Well Supply Co.
Reed Roller Bit Co.
Republic Supply Co.
Spang & Co.
Toledo Pipe Threading Machine Co.
Walworth Co.

Reboilers—
Alco Products, Inc.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. P. Devine Mfg. Co., Inc.
Griscom-Russell Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Arthur G. McKee & Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.

Receivers—Condensate—
Alco Products, Inc.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
J. A. Campbell Co.
M. W. Kellogg Co.
Leader Iron Works, Inc.
McAlear Mfg. Co.
Arthur G. McKee & Co.
Southwestern Engineering Corp.

Receiving Boxes—
Biggs Boiler Works Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.
Oil Conservation Engineering Co.
Joseph Reid Gas Engine Co.

Recirculating Systems—
Allegheny Steel Co.
Black, Sivalls & Bryson, Inc.
Coppus Engineering Corp.
Hercules Supply Co.

Recorders—Differential—Pressure
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Foxboro Co., Inc.
Meriam Co.
National Supply Co.
Pittsburgh Equitable Meter Co.
C. J. Tagliabue Mfg. Co.

Recorders—Draft—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Foxboro Co., Inc.
Meriam Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies

Recorders—Flow—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Foxboro Co., Inc.
Hercules Supply Co.
Meriam Co.
National Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Recorders—Pressure—
Bridgeport Machine Co.
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Crosby Steam Gage & Valve Co.
Foxboro Co., Inc.
Hercules Supply Co.
Martin-Decker Corp.
Meriam Co.
National Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies
Westcott & Greis, Inc.

Recorders—Temperature—
American Steel Works
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Foxboro Co., Inc.
Hercules Supply Co.
National Supply Co.
Pittsburgh Equitable Meter Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies
Westcott & Greis, Inc.

Rectifying Plants—
E. B. Badger & Sons Co.
C. F. Braun & Co.
J. P. Devine Mfg. Co., Inc.
Jackson Engineering Corp.
Walter E. Lummus Co.
Arthur G. McKee & Co.
Petroleum Engineering Corp.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Westinghouse Electric & Mfg. Co.

Reducers—Speed—
Allis-Chalmers Mfg. Co.
Baash-Ross Tool Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Falk Corp.
Foote Bros. Gear & Machine Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Link Belt Co.
Lufkin Foundry & Machine Co.
Moorlane Co., Inc.
National Supply Co.
Oil Well Supply Co.
Edward Soph
Wagner Electric Corp.
Westinghouse Electric & Mfg. Co.

Reduction Gears—
Allis-Chalmers Mfg. Co.
Baash-Ross Tool Co.
Emsco Derrick & Equipment Co.
Falk Corp.
Foote Bros. Gear & Machine Co.
General Electric Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Link Belt Co.
Lufkin Foundry & Machine Co.
Moorlane Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Joseph Reid Gas Engine Co.
Edward Soph
Westinghouse Electric & Mfg. Co.

Reels—Bailing—
Beaumont Iron Works Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Spang & Co.

Reels—Rig—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Moser Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Reels—Sand—
Beaumont Iron Works Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Reels—Torpedo—
Hercules Supply Co.
National Supply Co.

Refinery Engineering—SO_2 Process
Edeleanu Co., Ltd.

Refractories—
M. W. Kellogg Co.
Norvell-Wilder Supply Co.

Refractories—Furnace Stills and Baffles—
Brewster Co., Inc.
M. W. Kellogg Co.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Norvell-Wilder Supply Co.

Refrigerating Machinery—
Allegheny Steel Co.
Hercules Supply Co.
Ingersoll-Rand Co.
I. P. Morris & De LaVergne, Inc.
Henry Vogt Machine Co.

Refrigeration—Mechanical—
Hercules Supply Co.
I. P. Morris & De LaVergne, Inc.
Henry Vogt Machine Co.

Regulators—
Chaplin-Fulton Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Davis Regulator Co.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Linde Air Products Co.
Mason Regulator Co.
McAlear Mfg. Co.
A. J. McEwan & Co.
Moorlane Co., Inc.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.
Westinghouse Electric & Mfg. Co.

Regulator—Acetylene and Oxygen
Oxweld Acetylene Co.
Victor Welding Equipment Co.

Regulators—Air Pressure—
Binks Manufacturing Co.
Bristol Co.
Chaplin-Fulton Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Foxboro Co., Inc.
Hanlon-Waters, Inc.
Hercules Supply Co.
Mason Regulator Co.
McAlear Mfg. Co.
A. J. McEwan & Co.
Moorlane Co., Inc.
National Supply Co.
Neilan Co., Ltd.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Edward Soph
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies
Westcott & Greis, Inc.

Regulators—Back Pressure—
Chaplin-Fulton Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
Mason Regulator Co.
McAlear Mfg. Co.
A. J. McEwan & Co.
Moorlane Co., Inc.
National Supply Co.
National Tank Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Edward Soph
Strong, Carlisle & Hammond Co.
Westcott & Greis, Inc.

Regulators—Casinghead Gas—
Chaplin-Fulton Mfg. Co.
Davis Regulator Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
Mason Regulator Co.
McAlear Mfg. Co.
A. J. McEwan & Co.
Moorlane Co., Inc.
National Supply Co.
Neilan Co., Ltd.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Edward Soph
Strong, Carlisle & Hammond Co.
Westcott & Greis, Inc.

Regulators—Constant Flow—
Chaplin-Fulton Mfg. Co.
Davis Regulator Co.
Fisher Governor Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
Mason Regulator Co.
McAlear Mfg. Co.
A. J. McEwan & Co.
Moorlane Co., Inc.
National Supply Co.
Neilan Co., Ltd.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Edward Soph
Strong, Carlisle, & Hammond Co.
Westcott & Greis, Inc.

Regulators—Convertible—
Davis Regulator Co.
Fisher Governor Co.
Hercules Supply Co.
Mason Regulator Co.
McAlear Mfg. Co.
A. J. McFwan & Co.
Moorlane Co., Inc.
Neilan Co., Ltd.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Westcott & Greis, Inc.

Regulators—Differential Pressure
Chaplin-Fulton Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Davis Regulator Co.
Fisher Governor Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
Mason Regulator Co.
McAlear Mfg. Co.
A. J. McKwan & Co.
Moorlane Co., Inc.
National Supply Co.
Neilan Co., Ltd.
Pittsburgh Equitable Meter Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Regulators—Feed Water—
Chaplin-Fulton Mfg. Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
Lucey Products Corp.
Mason Regulator Co.
MacClatchie Mfg. Co.
Moorlane Co., Inc.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Strong, Carlisle & Hammond Co.

Regulators—Pressure—
Bristol Co.
Brown Instrument Co.
Chaplin-Fulton Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
Mason Regulator Co.
McAlear Mfg. Co.
A. J. McEwan & Co.
Moorlane Co., Inc.
National Supply Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Stacey Engineering Co.
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies
Westcott & Greis, Inc.

Regulators—Pump—
Chaplin-Fulton Mfg. Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
Mason Regulator Co.
McAlear Mfg. Co.
A. J. McEwan & Co.
Moorlane Co., Inc.
National Supply Co.
Neilan Co., Ltd.
Oil Well Supply Co.
Stacey Engineering Co.
Strong, Carlisle & Hammond Co.
Watson Stillman Co.

Regulators—Reducing—
Chaplin-Fulton Mfg. Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
Mason Regulator Co.
McAlear Mfg. Co.
A. J. McEwan & Co.
Moorlane Co., Inc.
National Supply Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Edward Soph
Strong, Carlisle & Hammond Co.
Westcott & Greis, Inc.

Regulators—Steam Pressure—
Bristol Co.
Brown Instrument Co.
Chaplin-Fulton Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Foxboro Co., Inc.
Hanlon-Waters, Inc.
Hercules Supply Co.
Lucey Products Corp.
Mason Regulator Co.
McAlear Mfg. Co.
A. J. McFwan & Co.
Moorlane Co., Inc.
National Supply Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Edward Soph
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Regulators—Temperature—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Foxboro Co., Inc.
General Electric Co.
Hercules Supply Co.
Mason Regulator Co.
A. J. McFwan & Co.
Moorlane Co., Inc.
National Supply Co.
Oil Well Supply Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies
Westcott & Greis, Inc.

Regulators—Vacuum—
Bristol Co.
Brown Instrument Co.
Chaplin-Fulton Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Foxboro Co., Inc.
Hanlon-Waters, Inc.
Hercules Supply Co.
A. J. McEwan & Co.
Moorlane Co., Inc.
National Supply Co.
Neilan Co., Ltd.
Oil Well Supply Co.
Edward Soph
Stacey Engineering Co.
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.
Westcott & Greis, Inc.

Regulators—Water Pressure—
Bristol Co.
Brown Instrument Co.
Chaplin-Fulton Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Foxboro Co., Inc.
Hanlon-Waters, Inc.
Hercules Supply Co.
Mason Regulator Co.
McAlear Mfg. Co.
Moorlane Co., Inc.
National Supply Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Edward Soph
C. J. Tagliabue Mfg. Co.
Watson Stillman Co.
Westcott & Greis, Inc.

Remover—Boiler Scale—
Bridgeport Machine Co.
Hercules Supply Co.
Continental Supply Co.
Dearborn Chemical Co.
Griscom-Russell Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Sullivan Co.

Rental Service—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Blackor Co.
Bridgeport Machine Co.
Hercules Supply Co.
International Derrick & Equipment Co.
LeBus Rotary Tool Works
Murray Tool & Supply Co.
Oil Well Supply Co.
Spang & Co.

Retainers—Cement—
Continental Supply Co.

Retorts—
Alco Products, Inc.
Biggs Boiler Works Co.
Chicago Bridge & Iron Works
Goslin-Birmingham Mfg. Co., Inc.
Houston Car Wheel & Machine Co.
Ross-Meehan Foundries Co.
Sowers Mfg. Co.

Retorts—High-Pressure Riveted—
Biggs Boiler Works Co.

Retorts—High-Pressure Welding—
Biggs Boiler Works Co.

Retorts—Impregnating—
Biggs Boiler Works Co.

Return Bends—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
M. W. Kellogg Co.
Kerotest Mfg. Co.
Key Boiler Equipment Co.
Midwest Piping & Supply Co., Inc.
Moorlane Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Power Piping Co.
Reading Iron Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Ross-Meehan Foundries Co.
Stockham Pipe & Fittings Co.
Superheater Co.
Taubman Supply Corp.
Walworth Co.

Reversible Clutches—
Continental Supply Co.
Cooper-Bessemer Corp.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Jno. Muller Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Joseph Reid Gas Engine Co.

Reversing Tools—
Hercules Supply Co.
Oil Well Supply Co.

Rig Irons—
Beaumont Iron Works Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Rigs—Drilling—All Steel—
Beaumont Iron Works Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
O'Brien Steel Construction Co., Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.
Wertzberger Derrick Co.

Rigs—Portable Drilling—
Beaumont Iron Works Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Star Drilling Machine Co.

Rigs—Pumping—
Baash-Ross Tool Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
B. G. Goble Mfg. Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
Moser Manufacturing Co.
National Supply Co.
O'Brien Steel Construction Co., Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Wertzberger Derrick Co.

Rings—Casing—
Acme Fishing Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Field Engineering Corp.
Oil Well Improvements Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.

Rings—Packing—
Baash-Ross Tool Co.
Continental Supply Co.
Frick-Reid Supply Corp.
B. F. Goodrich Rubber Co.
C. M. Hester Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Improvements Co.
Oil Well Supply Co.

Rings—Piston—
American Hammered Piston Ring Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jno. Muller Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Rings—Stuffing Box—
Paul Arbon & Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Goodyear Tire & Rubber Co., Inc.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Supply Co.
Jenkins Brothers
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Field Engineering Corp.
Oil Well Supply Co.

Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Rippers—Casing—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.

Rivets—
Aluminum Co. of America
Bridgeport Machine Co.
Duriron Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Pittsburgh Screw & Bolt Corp.
Republic Steel Corp.
Tulsa Boiler & Machinery Co.

Rocker—Walking Beam—
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Rods—Polish—
Allegheny Steel Co.
Axelson Mfg. Co., Ltd.
Bradford Motor Works, Inc.
Brewster Co., Inc.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Nickel Co., Inc.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Shaffer Tool Works
Texas Steel Co.

Rods—Pony—
Allegheny Steel Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Texas Steel Co.

Rods—Pull—
Axelson Mfg. Co., Ltd.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Texas Steel Co.

Rods—Pull (Connections, 5-Bolt Steel)—
Surface Equipment Co.

Rods—Sucker—
Allegheny Steel Co.
Axelson Mfg. Co Ltd.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co
Frick-Reid Supply Corp.
C. M. Heeter Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Supply Co.
Texas Steel Co.

Rods—Surface—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
Texas Steel Co.

Rods—Valve—
Bradford Motor Works, Inc.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Texas Steel Co.

Rods—Welding—
American Rolling Mill Co.
American Steel & Wire Co.
Frick-Reid Supply Corp.
Haynes Stellite Co.
Hercules Supply Co.
International Nickel Co., Inc.
Linde Air Products Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oxweld Acetylene Co.
Page Steel & Wire Co.
Republic Steel Corp.
Victor Welding Equipment Co
Wilson Welder & Metals Co., Inc.
Youngstown Sheet & Tube Co.

Roofing—
Allegheny Steel Co.
Aluminum Co. of America
American Rolling Mill Co.
American Sheet & Tin Plate Co.
Barrett Co.
Philip Carey Co.
Columbian Steel Tank
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
National Lead Co.
National Supply Co
Norvell-Wilder Supply Co.
Republic Steel Corp.
Sullivan Co.
Wyatt Metal & Boiler Works
Youngstown Sheet & Tube Co.

Roofs—Breather—
Chicago Bridge & Iron Works

Roofs—Floating—
J. A. Campbell Co.
Chicago Bridge & Iron Works
Kirk-Morrow Iron Works, Inc.
Pittsburgh-Des Moines Steel Co.

Roofs—Floating Tank—
J. A. Campbell Co.
Chicago Bridge & Iron Works
Kirk-Morrow Iron Works, Inc.
Pittsburgh-Des Moines Steel Co.

Roofs—Still—
Chicago Bridge & Iron Works

Roofing—Corrugated Asbestos—
Philip Carey Co.
Hercules Supply Co.

Roofing—Tank—
American Rolling Mill Co.
Barrett Co.
C. F. Braun & Co.
Philip Carey Co.
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
McClintic-Marshall Co.
National Tank Seal Co.
Petroleum Iron Works Co.
Republic Steel Corp.

Rope—Manila—
Bridgeport Machine Co.
Columbian Rope Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Star Drilling Machine Co.
St. Louis Cordage Mills Co.
Wall Rope Works, Inc.

Rope—Wire—
American Cable Co., Inc.
American Steel & Wire Co.
Baash-Ross Tool Co.
Black Wire Rope Co.
Bridgeport Machine Co.
Brown Instrument Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hazard Wire Rope Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
A. Leschen & Sons Rope Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Macwhyte Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Star Drilling Machine Co.
Union Wire Rope Co.
Wickwire Spencer Steel Co.
Williamsport Wire Rope Co.

Rope—Socket Metal—
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Macwhyte Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Spang & Co.

Rotaries—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Sheldon Machinery Corp.
Titusville Iron Works Co.

Rotary Bit Steel—
Beaumont Iron Works Co.
Continental Supply Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Oil Well Supply Co.
Republic Steel Corp.

Rotary Mud—
National Pigments & Chemical Co.

Rotary—Mud Conditioner—
California Talc Co.

Rotary Tool Joints—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Guiberson Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
Hughes Tool Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Patterson-Ballagh Corp.
Reed Roller Bit Co.
Republic Supply Co.
Shaffer Tool Works
Spengler Tool Co.
Titusville Iron Works Co.

Rotators—Sucker Rod—
Bridgeport Machine Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Oil Well Supply Co.

Rotators—Tubing—
Hercules Supply Co.
Hercules Tool Co.
International Supply Co.
Oil Well Supply Co.

Rubbers—Slush Pump—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
B. F. Goodrich Rubber Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Lucey Products Corp.
MacClatchie Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Patterson-Ballagh Corp.
Republic Supply Co.
Titusville Iron Works Co.

Rubbers—Swab—
Acme Fishing Tool Co.
Paul Arbon & Co.
Baash-Ross Tool Co.
Bartlesville Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
B. F. Goodrich Rubber Co.
Guiberson Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Spang & Co.

Rules—Steel—
Lufkin Rule Co.

Rust Preventives—
Dearborn Chemical Co.
E. I. Du Pont de Nemours & Co., Inc.
Eagle-Picher Lead Co.
General Paint Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
Oakite Products, Inc.
Pure Oil Co.
Sinclair Refining Co.
Sullivan Co.
Technical Products, Inc.
Wailes, Dove-Hermiston Corp.
W-K-M Co.

S

Saddles—Pipe—
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
S. R. Dresser Mfg. Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Spang & Co.
Taylor Forge & Pipe Works
Union Machine Co.
Walworth Co.

Sand Line Caps—
Paul Arbon & Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Improvements Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Sand Lines—Manila—
Bridgeport Machine Co.
Columbian Rope Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Star Drilling Machine Co.

Sand Lines—Wire—
American Cable Co., Inc.
American Steel & Wire Co.
Bridgeport Machine Co.
Brown Instrument Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hazard Wire Rope Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Macwhyte Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Plymouth Cordage Co.
Republic Supply Co.
Star Drilling Machine Co.
Union Wire Rope Co.
Wickwire Spencer Steel Co.
Williamsport Wire Rope Co.

Sand Pumps—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
C. M. Heeter Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Star Drilling Machine Co.

Sand Traps—
Continental Supply Co.
Hercules Supply Co.
International Supply Co.
Jarecki Mfg. Co.
National Supply Co.

Sash Steel—
Hercules Supply Co.
International Derrick & Equipment Co.
Marion Machine Foundry & Supply Co.
National Supply Co.

Saws—
Bridgeport Machine Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Scoops—Hand—
Wood Shovel & Tool Co.

Screen—Oil Well—
Baash-Ross Tool Co.
Brauer Machine & Supply Co.
Hercules Supply Co.
Layne & Bowler Co.
J. H. McEvoy & Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
E. M. Smith Co.

Screens—Mud Handling—
Allis-Chalmers Mfg. Co.
Baash-Ross Tool Co.
Chain Belt Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Link Belt Co.
Oil Well Supply Co.

Screens—Water Well—
Allis-Chalmers Mfg. Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Layne & Bowler Co.
J. H. McEvoy & Co.
Oil Well Supply Co.
Republic Supply Co.

Screws—Temper—
Acme Fishing Tool Co.
Paul Arbon & Co
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.

Scrubbers—
Alco Products, Inc.
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
C. F. Braun & Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
Goslin-Birmingham Mfg. Co., Inc.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Jackson Engineering Corp.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Tank Co.
A. O. Smith Corp.
Southwestern Engineering Corp.
Stacey Engineering Co.
Tulsa Boiler & Machinery Co.

Secondary Instruments—
C. J. Tagliabue Mfg. Co.

Separators—
Alco Products, Inc.
Brauer Machine & Supply Co.
C. F. Braun & Co.
J. A. Campbell Co.
Crane Co.
Frick-Reid Supply Corp.
Griscom-Russell Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
Moorlane Co., Inc.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
A. O. Smith Corp.
Strong, Carlisle & Hammond Co.
Sun Shipbuilding & Drydock Co.
Tulsa Boiler & Machinery Co.
W-K-M Co.

Separators—Air—
Binks Manufacturing Co.
Crane Co.
Frick-Reid Supply Corp.
Griscom-Russell Co.
Hercules Supply Co.
Leader Iron Works, Inc.
Oil Well Supply Co.
Strong, Carlisle & Hammond Co.

Separators—Centrifugal—
American Tank & Equipment Corp.
Griscom-Russell Co.
Hercules Supply Co.
Leader Iron Works, Inc.
National Tank Co.

Separators—Gas—
Alco Products, Inc.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Brewster Co., Inc.
Crane Co.
Frick-Reid Supply Corp.
Griscom-Russell Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
M. W. Kellogg Co.
Leader Iron Works, Inc.
National Supply Co.
National Tank Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Strong, Carlisle & Hammond Co.

Separators—Gasoline—
Biggs Boiler Works Co.
J. A. Campbell Co.
Continental Supply Co.
Foster Wheeler Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
Leader Iron Works, Inc.
National Tank Co.
Oil Well Supply Co.
A. O. Smith Corp.
Southwestern Engineering Corp
Strong, Carlisle & Hammond Co.
Henry Vogt Machine Co.

Separators—Oil—
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
J. A. Campbell Co.
Crane Co.
Foster Wheeler Corp.
Frick-Reid Supply Corp.
Griscom-Russell Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
Leader Iron Works, Inc.
George B. Limbert & Co.
Arthur G. McKee & Co.
National Supply Co.
National Tank Co.
National Supply Co.
Oil Well Supply Co.

Parkersburg Rig & Reel Co.
Strong, Carlisle & Hammond Co.
Henry Vogt Machine Co.

Separators—Oil and Gas—
Alco Products, Inc.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Brewster Co., Inc.
Continental Supply Co.
Crane Co.
Drane-Humphrey Co., Inc.
Foster Wheeler Corp.
Griscom-Russell Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
Leader Iron Works, Inc.
Miller Sand Pump Co.
McAlear Mfg. Co.
Arthur G. McKee & Co.
National Supply Co.
National Tank Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
A. O. Smith Corp.
Smith Separator Co.
Strong, Carlisle & Hammond Co.
Tulsa Boiler & Machinery Co.

Separators—Steam—
Biggs Boiler Works Co.
J. A. Campbell Co.
Crane Co.
Fisher Governor Co.
Foster Wheeler Corp.
Griscom-Russell Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
M. W. Kellogg Co.
Leader Iron Works, Inc.
George B. Limbert & Co.
Lucey Products Corp.
Marley Co.
McAlear Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Strong, Carlisle & Hammond Co.
W-K-M Co.

Separators—Steam and Oil—
Biggs Boiler Works Co.
J. A. Campbell Co.
Continental Supply Co.
Crane Co.
Fisher Governor Co.
Griscom-Russell Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
George B. Limbert & Co.
National Supply Co.
Oil Well Supply Co.
A. O. Smith Corp.
Strong, Carlisle & Hammond Co.

Service—Consulting Engineering—
American Tank & Equipment Corp.
Black, Sivalls & Bryson, Inc.
J. P. Devine Mfg. Co., Inc.
Frick-Reid Supply Corp.
Hope Engineering Co.
International Derrick & Equipment Co.
Jackson Engineering Corp.
Arthur G. McKee & Co.
National Supply Co.
Petroleum Engineering, Inc.
Tulsa Boiler & Machinery Co.
Victor Balata & Textile Belting Co.

Shafts—Rig Iron—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Union Machine Co.

Sheaves—Block—
American Steel & Wire Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Miles P. Brown Boiler Works
California Manufacturing & Engineering Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Regan Forge & Engineering Co.
Resistcor Engineering Corp.

Sheet Lead—Chemical and Antimonial—
Eagle-Picher Lead Co.
Hercules Supply Co.
National Lead Co.

Sheet Metal—
Aluminum Co. of America
American Rolling Mill Co.
American Sheet & Tin Plate Co.
American Tank & Equipment Corp.
Bethlehem Steel Co.
Miles P. Brown Boiler Works
Columbian Steel Tank Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Nickel Co., Inc.
National Lead Co.
National Supply Co.
Republic Steel Corp.
Tulsa Boiler & Machinery Co.
Youngstown Sheet & Tube Co.

Sheet Metal Works—
Southern Cornice Works
Tulsa Sheet Metal Co.

Sheets—Copper and Brass—
J. P. Devine Mfg. Co., Inc.
Hercules Supply Co.
Tulsa Boiler & Machinery Co.

Sheets—Corrugated Black and Galvanized—
American Rolling Mill Co.
American Sheet & Tin Plate Co.
American Tank & Equipment Corp.
Bethlehem Steel Co.
A. M. Byers Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Granite City Steel Co.
Hercules Supply Co.
Highland Iron & Steel Co.
Reading Iron Co.
Republic Steel Corp.
Republic Supply Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works
Youngstown Sheet & Tube Co.

Sheets—Steel—
American Rolling Mill Co.
American Sheet & Tin Plate Co.
American Tank & Equipment Corp.
Bethlehem Steel Co.
Frick-Reid Supply Corp.
Granite City Steel Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Kaw Steel Construction Co.
Marion Machine Foundry & Supply Co.
National Tank Co.
Parkersburg Rig & Reel Co.
Republic Steel Corp.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works
Youngstown Sheet & Tube Co.

Shields—Gauge Glass—
Bridgeport Machine Co.
Continental Supply Co.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
National Supply Co.
Oil Well Supply Co.

Shoes—Casing—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Cameron Iron Works, Inc.
Continental Supply Co.
Doheny Stone Drill Co.
Dresser Gorton, Inc.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
C. M. Heeter Sons & Co. Inc.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Layne & Bowler Co.
Lucey Products Corp.
J. H. McEvoy & Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Oil Field Engineering Corp.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Shaffer Tool Works
Republic Supply Co.
Spang & Co.
Texas Steel Co.

Shoes—Drag—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Hercules Supply Co.
National Supply Co.
Oil Well Supply Co.

Shoes—Drive—
Acme Fishing Tool Co.
Baker Oil Tools, Inc.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Cameron Iron Works, Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co
Larkin Packer Co.
Layne & Bowler Co.
George B. Limbert & Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Spang & Co.

Shoes—Float—
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Lucey Products Corp.
J. H. McEvoy & Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Shoes—Set—
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Cameron Iron Works, Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Larkin Packer Co.
Layne & Bowler Co.
J. H. McEvoy & Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Shovels—Hand—
Wood Shovel & Tool Co.

Shovels—Power—
Allis-Chalmers Mfg. Co.
Buckeye Traction Ditcher Co.
Byers Machine Co.
Link Belt Co.
National Equipment Corp.
Northwest Engineering Co.
Star Drilling Machine Co.

Shovels—Tractor—
Byers Machine Co.
Link Belt Co.
Trackson Co.

Signs—Globe—
Cincinnati Advertising Products Co.

Silica—
Corona Products Co.
Hercules Supply Co.

Sleeves—
S. R. Dresser Mfg. Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.

Sleeves—Pipe—
Baash-Ross Tool Co.
Bethlehem Steel Co.
Continental Supply Co.
Crane Co.
S. R. Dresser Mfg. Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Slips—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Larkin Packer Co.
J. H. McEvoy & Co.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Improvements Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Shaffer Tool Works
W-K-M Co.

Smoke Stacks—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Continental Supply Co.
J. P. Devine Mfg. Co., Inc.
Freeman Mfg. Co.
Frick-Reid Supply Corp.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
International Supply Co.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Murray Tool & Supply Co.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Oil Well Supply Co.
Pittsburgh-Des Moines Steel Co.
Reading Iron Co.
Standard Steel Works
Sun Shipbuilding & Drydock Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Sockets—Bell—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works
Spang & Co.

Sockets—Collar—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Spang & Co.

Sockets—Combination—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
LeBus Rotary Tool Works
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works
Spang & Co.
Star Drilling Machine Co.

Sockets—Eccentric—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works

Sockets—Friction—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
C. M. Heeter & Sons Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works
Spang & Co.
Star Drilling Machine Co.

Sockets—Jar Rein—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Spang & Co.
Star Drilling Machine Co.

Sockets—Rod and Tubing—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works
Spang & Co.

Sockets—Rope—
Acme Fishing Tool Co.
American Steel & Wire Co.
Paul Arbon & Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Spang & Co.
Star Drilling Machine Co.
Williamsport Wire Rope Co.

Sockets—Slip—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
LeBus Rotary Tool Works
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works
Spang & Co.

Sockets—Sucker Rod—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Bradford Motor Works, Inc.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Guiberson Corp.
C. M. Heeter Sons & Co., Inc.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Spang & Co.

Soda Alluminate—
Dearborn Chemical Co.

Softeners—Water—
Biggs Boiler Works Co.
Dearborn Chemical Co.
Griscom-Russell Co.
Hercules Supply Co.
Hills-McCanna Co.
Pittsburgh-Des Moines Steel Co

Solder—Bar and Wire—
Continental Supply Co.
Dresser & Gorton, Inc.
Eagle-Picher Lead Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.

Solvent—Boiler Scale—
Dearborn Chemical Co.
Hercules Supply Co.
International Supply Co.
Oil Well Supply Co.
Sullivan Co.

Solvent—Engine Scale—
Dearborn Chemical Co.
Hercules Supply Co.
International Supply Co.
Oil Well Supply Co.
Sullivan Co.

Solvents—Paraffin—
Hercules Supply Co.

Spades—Hand—
Wood Shovel & Tool Co.

Spark Plugs—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jno. Muller Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
United American Bosch Corp.

Spears—
Acme Fishing Tool Co.
Alco Tool Co., Ltd.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Continental Supply Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
C. M. Heeter & Sons Co., Inc.
Hercules Supply Co.
International Supply Co.
LeBus Rotary Tool Works
Lucey Products Corp.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works
Spang & Co.
W-K-M Co.

Specialties—Steam—
Chaplin-Fulton Mfg. Co.
Davis Regulator Co.
Fisher Governor Co.
Hercules Supply Co.
International Supply Co.
George B. Limbert & Co.
Lunkenheimer Co.
Marley Co.
McAlear Mfg. Co.
Mooriane Co., Inc.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Strong, Carlisle & Hammond Co.
Walworth Co.

Spiders—Casing and Tubing—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Chas. A. Butler Mfg. Co.
Cameron Iron Works, Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hercules Tool Co.
International Supply Co.
Larkin Packer Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Shaffer Tool Works
Watson Stillman Co.
W-K-M Co.

Spray Machines—
American Steel Works
Binks Manufacturing Co.
Hercules Supply Co.
Oil Well Supply Co.

Spray Nozzles—
Binks Manufacturing Co.
Continental Supply Co.
Crane Co.
Duriron Co.
Frick-Reid Supply Corp.

Hercules Supply Co.
Marley Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Spray Painting Equipment—
American Steel Works
Binks Manufacturing Co.
General Paint Corp.
Hercules Supply Co.
Ingersoll-Rand Co.
Resistcor Engineering Corp.

Sprockets—Power Transmission—
Allis-Chalmers Mfg. Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Chain Belt Co.
Foote Bros. Gear & Machine Co.
International Derrick & Equipment Co.
International Supply Co.
Link Belt Co.

Spuds—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Spang & Co.

Stabilizers—
American Tank & Equipment Corp.
Black, Sivalls & Bryson, Inc.
Butler Mfg. Co.
J. P. Devine Mfg. Co., Inc
Hercules Supply Co.
International Derrick & Equipment Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Patterson-Ballagh Corp.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.

Stacks—
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank Co.
Donovan Boiler Works, Inc.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
International Supply Co.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
National Supply Co.
Oil Well Supply Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Reading Iron Co.

Stacks—Smoke—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank Co.
Continental Supply Co.
J. P. Devine Mfg. Co., Inc.
Donovan Boiler Works, Inc.
Frick-Reid Supply Corp.
Hedges, Walsh-Weidner Co.
Hercules Supply Co.
International Supply Co.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
McClintic-Marshall Co.
National Supply Co.
North American Car Corp.
Oil Well Supply Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Reading Iron Co.
Standard Steel Works
Wyatt Metal & Boiler Works

Stairways and Walkways—
American Steel Works
American Tank & Equipment Corp.
Black, Sivalls & Bryson, Inc.
Butler Mfg. Co.
Columbian Steel Tank Co.
Drane-Humphreys Co., Inc.
International Derrick & Equipment Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Stairways—Steel—
American Steel Works
American Tank & Equipment Corp.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
North American Car Corp.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Stand Pipes—
Biggs Boiler Works Co.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
Oil Well Supply Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Stacey Engineering Co.
Tulsa Boiler & Machinery Co.

Starters—Electric Motor—
Louis Allis Co.
Allis-Chalmers Mfg. Co.
General Electric Co.
Hercules Supply Co.
National Supply Co.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.

Starters—Explosion Proof—
Louis Allis Co.
Allis-Chalmers Mfg. Co.
National Supply Co.
Oil Well Supply Co.

Steel—Alloy—
American Stainless Steel Co.
Beaumont Iron Works Co.
Bethlehem Steel Co.
Duriron Co.
Harrisburg Pipe & Pipe Bending Co.
International Derrick & Equipment Co.
International Supply Co.
Mooriane Co., Inc.
Oil Well Supply Co.
Republic Steel Corp.
Ross-Meehan Foundries Co.
Timken Roller Bearing Co.

Steel—Bit—
Bethlehem Steel Co.
Bridgeport Machine Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Derrick & Equipment co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
Oil Well Supply Co.
Republic Steel Corp.
Timken Roller Bearing Co.

Steel—Cold Drawn—
American Steel & Wire Co.
Bethlehem Steel Co.
Crane Co.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
Jones & Laughlin Steel Corp.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Steel Corp.
Timken Roller Bearing Co.

Steel—Fabricated—
American Steel Works
American Tank & Equipment Corp.
Bethlehem Steel Co.
Black, Sivalls & Bryson, Inc.
International Derrick & Equipment Co.
Jones & Laughlin Steel Corp.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
North American Car Corp.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Steel—Hot Rolled Strip—
American Rolling Mill Co.
American Steel & Wire Co.
Bethlehem Steel Co.
Republic Steel Corp.

Steel—Open Hearth—
American Rolling Mill Co.
Bethlehem Steel Co.
Miles P. Brown Boiler Works
Columbian Steel Tank Co.
Granite City Steel Co.
Harrisburg Pipe & Pipe Bending Co.
Jones & Laughlin Steel Corp.
Republic Steel Corp.
Timken Roller Bearing Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works
Youngstown Sheet & Tube Co.

Steel Pitmans—
Baker Oil Tools, Inc.
California Manufacturing & Engineering Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Steel Plate Construction—
Bethlehem Steel Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
J. P. Devine Mfg. Co., Inc.
Donovan Boiler Works, Inc.
Griscom-Russell Co.
International Derrick & Equipment Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Littleford Brothers
McClintic-Marshall Co.
North American Car Corp.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Stacey Engineering Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Steel—Special—
Bethlehem Steel Co.
Harrisburg Pipe & Pipe Bending Co.
Republic Steel Corp.
Timken Roller Bearing Co.

Steel—Stainless—
American Stainless Steel Co.
American Steel & Wire Co.
Bethlehem Steel Co.
Miles P. Brown Boiler Works
Columbian Steel Tank Co.
Duriron Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Republic Steel Corp.
Edward Soph
Timken Roller Bearing Co.
Tulsa Boiler & Machinery Co.

Steel—Structural—
Bethlehem Steel Co.
Miles P. Brown Boiler Works
International Derrick & Equipment Co.
Jones & Laughlin Steel Corp.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
North American Car Corp.
Parkersburg Rig & Reel Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Steel—Tool—
Bethlehem Steel Co.
Dresser & Gorton, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Steel Corp.
Tulsa Boiler & Machinery Co.

Steel—Wheels and Tug Rims—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lee C. Moore & Co., Inc.
National Supply Co.
O'Brien Steel Construction Co., Inc.
Parkersburg Rig & Reel Co.

Stems—Drilling—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Spang & Co.

Stems—Valve—
Continental Supply Co.
Crane Co.
Duriron Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hughes Tool Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kerotest Mfg. Co.
MacClatchie Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Henry Vogt Machine Co.
Walworth Co.

Steps—Steel Safety—
American Tank & Equipment Corp.
Butler Mfg. Co.
Chicago Bridge & Iron Works
International Derrick & Equipment Co.

Stills—
Alco Products, Inc.
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Kirk-Morrow Iron Works, Inc.
Walter E. Lummus Co.
Arthur G. McKee & Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Stills—Cracking—
Alco Products, Inc.
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Freeman Mfg. Co.
Hedges-Walsh-Weidner Co.
M. W. Kellogg Co.
McClintic-Marshall Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Stills—Oil—
Alco Products, Inc.
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Freeman Mfg. Co.
M. W. Kellogg Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Superheater Co.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Stills—Oil Heating—
Alco Products, Inc.
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Freeman Mfg. Co.
M. W. Kellogg Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Superheater Co.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Stills Pipe—
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Freeman Mfg. Co.
M. W. Kellogg Co.
Walter E. Lummus Co.
Arthur G. McKee & Co.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
A. O. Smith Corp.
Southwestern Engineering Corp.
Spang, Chalfant & Co., Inc.
Superheater Co.
Tulsa Boiler & Machinery Co.

Stills—Pressure—
Alco Products, Inc.
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Freeman Mfg. Co.
Hedges-Walsh-Weidner Co.
M. W. Kellogg Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.
Petroleum Iron Works Co.
A. O. Smith Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.

Stills—Reducing—
Biggs Boiler Works Co.
Chicago Bridge & Iron Works
Petroleum Iron Works

Stills—Rerun—
Biggs Boiler Works Co.
Chicago Bridge & Iron Works
Petroleum Iron Works

Stills—Shell—
Alco Products, Inc.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
J. P. Devine Mfg. Co., Inc.
Freeman Mfg. Co.
Hedges-Walsh-Weidner Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Arthur G. McKee & Co.
Petroleum Iron Works Co.
A. O. Smith Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Stills—Steam—
Alco Products, Inc.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
J. P. Devine Mfg. Co., Inc.
Freeman Mfg. Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Arthur G. McKee & Co.
Petroleum Iron Works Co.
Tulsa Boiler & Machinery Co.
Southwestern Engineering Corp.
Henry Vogt Machine Co.

Stills—Tube—
American Tank & Equipment Corp.
E. B. Badger & Sons Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Freeman Mfg. Co.
M. W. Kellogg Co.
Walter E. Lummus Co.
Arthur G. McKee & Co.
Petroleum Iron Works Co.
A. O. Smith Corp.
Superheater Co.
Southwestern Engineering Corp.
Henry Vogt Machine Co.

Stocks and Dies—
Armstrong Bros. Tool Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Nye Tool & Machine Works
Toledo Pipe Threading Machine Co.
Walworth Co.

Stokers—Automatic Coal—
Goslin-Birmingham Mfg. Co., Inc.
Marion Machine Foundry & Supply Co.

Stoppers—Pipe—
Safety Gas Main Stopper Co.

Stoves—Bunkhouse—
Union Machine Co.

Straighteners—Pipe—
American Iron & Machine Works Co.
American Tank & Equipment Corp.
Baash-Ross Tool Co.
Davis Regulator Co.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
W-K-M Co.
Watson Stillman Co.

Strainers—
C. F. Braun & Co.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Fisher Governor Co.
Frick-Reid Supply Corp.
Griscom-Russell Co.
Hercules Supply Co.
McAlear Mfg. Co.
National Airoil Burner Co.
National Supply Co.
Oil Well Supply Co.
Penberthy Injector Co.
Strong, Carlisle & Hammond Co.
Worthington Pump & Machinery Corp.

Strainers—Oil—
C. F. Braun & Co.
Miles P. Brown Boiler Works
Crane Co.
Davis Regulator Co.
J. P. Devine Mfg. Co., Inc.
Fisher Governor Co.
Frick-Reid Supply Corp.
Griscom-Russell Co.
Hercules Supply Co.
Layne & Bowler Co.
McAlear Mfg. Co.
J. H. McEvoy & Co.
National Airoil Burner Co.
National Supply Co.
Strong, Carlisle & Hammond Co.

Strainers—Pipe Line—
C. F. Braun & Co.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
International Supply Co.
McAlear Mfg. Co.
National Supply Co.
Walworth Co.

Strainers—Well—
Baash-Ross Tool Co.
Crane Co.
Hercules Supply Co.
Layne & Bowler Co.
J. H. McEvoy & Co.
McAlear Mfg. Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Walworth Co.

Stuffing Boxes—
Baash-Ross Tool Co.
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
National Tank Co.
Norvell-Wilder Supply Co.
Oil Field Engineering Corp.
Oil Well Improvements Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Republic Supply Co.

Sulphur—
Hercules Supply Co.

Sulphur Dioxide Process—
Edeleanu Co., Ltd.

Superheaters—
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Foster Wheeler Corp.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Lucey Products Corp.
Walter E. Lummus Co.
Marley Co.
Arthur G. McKee & Co.

National Supply Co.
Superheater Co.

Supports—Machinery—
Brauer Machine & Supply Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
National Supply Co.
Parkersburg Rig & Reel Co.

Supports—Sand Reel—
Continental Supply Co.
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Supports—Structural Steel Tank—
American Steel Works
Miles P. Brown Boiler Works
International Derrick & Equipment Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
National Tank Co.
Parkersburg Rig & Reel Co.
Pittsburgh-Des Moines Steel Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Supports—Tube—
Bridgeport Machine Co.
Hercules Supply Co.
Oil Well Supply Co.

Supports—Tubing—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Cameron Iron Works, Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hercules Tool Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Oil Well Improvements Co.
Oil Well Supply Co.

Surveying—Wells—
Driftmeter, Inc.
Patterson-Ballagh Corp.
Sperry-Sun Well Surveying Co.

Swabs—
Acme Fishing Tool Co.
Paul Arbon & Co.
Baash-Ross Tool Co.
Bartlesville Supply Co.
Brewster Co., Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
Guiberson Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Spang & Co.

Swab—Rubbers—
Acme Fishing Tool Co.
Paul Arbon & Co
Baash-Ross Tool Co.
Bartlesville Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Globe Oil Tools Co.
B. F. Goodrich Rubber Co.
Guiberson Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Republic Supply Co.
Spang & Co.

Swages—Casing—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Layne & Bowler Co.
Lucey Products Corp.
Moorlane Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Supply Co.
Spang & Co.

Swedge Nipples—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
S. R. Dresser Mfg. Co.
Frick-Reid Supply Corp.
C. M. Heeter, Sons & Co., Inc.
Hercules Supply Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Layne & Bowler Co.
Lucey Products Corp.
Moorlane Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Supply Co.
Shaffer Tool Works
Spang & Co.
Texas Steel Co.

Swing Joints—
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Continental Supply Co.
Crane Co.
Fisher Governor Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Leader Iron Works, Inc.
Lunkenheimer Co.
McClintic-Marshall Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Walworth Co.
Westcott & Greis, Inc.

Swing Lines—
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Elliott Manufacturing Co.
Kaw Steel Construction Co.
McClintic-Marshall Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Westcott & Greis, Inc.

Swings—Rod Line—
Bridgeport Machine Co.
Frick-Reid Supply Corp.
B. G. Goble Mfg. Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Texas Steel Co.

Switchboards—Electric—
Allis-Chalmers Mfg. Co.
Electric Machinery Mfg. Co.
General Electric Co.
National Supply Co.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.

Switches—Electric—
Louis Allis Co.
Allis-Chalmers Mfg. Co.
Electric Machinery Mfg. Co.
General Electric Co.
National Supply Co.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.

Switches—Safety—
Allis-Chalmers Mfg. Co.
National Supply Co.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.

Swivels—Drilling—
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
MacClatchie Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.

Swivels—Sucker Rod—
Bridgeport Machine Co.
Continental Supply Co.
Hercules Supply Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
W-K-M Co.

T

Tachometers—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Foxboro Co., Inc.
National Supply Co.

Tank Connections—
American Steel Works
Black, Sivalls & Bryson, Inc.
Crane Co.
Duriron Co.
Hercules Supply Co.
Kirk-Morrow Iron Works, Inc.
National Supply Co.
National Tank Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Standard Steel Works
Walworth Co.

Tank Equipment—
American Steel Works
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Duriron Co.
Fisher Governor Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
Oil Conservation Engineering Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Standard Steel Works
Union Machine Co.
Walworth Co.
Westcott & Greis, Inc.

Tank Gauges—
American Steel Works
Butler Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Leader Iron Works, Inc.
McClintic-Marshall Co.
Meriam Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.

Tanks—
Alco Products, Inc.
American Rolling Mill Co.
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Donovan Boiler Works, Inc.
Frick-Reid Supply Corp.
General American Tank Car Corp.
Griscom-Russell Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Jarecki Manufacturing Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
Linde Air Products Co.
Marsh Gauge Pole Co.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Pressed Steel Car Co.
Stacey Engineering Co.
Standard Steel Works
Sun Shipbuilding & Drydock Co.
Titusville Iron Works Co.

Tanks—Accumulator—
Alco Products, Inc.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Tank Co.
North American Car Corp.
Parkersburg Rig & Reel Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Tanks—Acetylene—
National Tube Co.
Prest-O-Lite Co., Inc.

Tanks—Acid—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Duriron Co.
B. F. Goodrich Rubber Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
McClintic-Marshall Co.
North American Car Corp.
National Lead Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Pressed Steel Car Co.
A. O. Smith Corp.
Edward Soph.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Tanks—Air—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Binks Manufacturing Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Chicago Pneumatic Tool Co.
Columbian Steel Tank
Donovan Boiler Works, Inc.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Ingersoll-Rand Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Tank Co.
North American Car Corp.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Schramm, Inc.
A. O. Smith Corp.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Tanks—Automatic Sprinkler—
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Chicago Bridge & Iron Works
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Leader Iron Works, Inc.
McClintic-Marshall Co.
Pittsburgh-Des Moines Steel Co.
Wyatt Metal & Boiler Works

Tanks—Blow—
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
McClintic-Marshall Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Tanks—Bolted—
American Rolling Mill Co.
American Tank & Equipment Corp.
Black, Sivalls & Bryson, Inc.
Bridgeport Machine Co.
Butler Mfg. Co.
Columbian Steel Tank
Drane-Humphrey Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
Parkersburg Rig & Reel Co.

Tanks—Brine—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Freeman Mfg. Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
McClintic-Marshall Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Pressed Steel Car Co.
Edward Soph
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Tanks—Bulk Station—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
J. P. Devine Mfg. Co., Inc.
Drane-Humphrey Co., Inc.
Freeman Mfg. Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Kaw Steel Construction Co.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Tank Co.
North American Car Corp.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Pressed Steel Car Co.
Stacey Engineering Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Bulk Storage—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
J. P. Devine Mfg. Co., Inc.
Freeman Mfg. Co.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Kaw Steel Construction Co.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Tank Co.
North American Car Corp.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Pressed Steel Car Co.
Stacey Engineering Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Crude Oil Storage—
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Continental Supply Co.
Donovan Boiler Works, Inc.
Drane-Humphrey Co., Inc.
Freeman Mfg. Co.
Frick-Reid Supply Corp.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Maloney Tank Mfg. Co.
Marsh Gauge Pole Co.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Pressed Steel Car Co.
Stacey Engineering Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Elevated Steel—
American Tank & Equipment Corp.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Columbian Steel Tank
Drane-Humphrey Co., Inc.
Hercules Supply Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
North American Car Corp.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Stacey Engineering Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Field Storage—
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Donovan Boiler Works, Inc.
Drane-Humphrey Co., Inc.
Frick-Reid Supply Corp.
Gilbert & Barker Mfg. Co.
Hedges-Walsh-Weidner Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Stacey Engineering Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Flow—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Drane-Humphrey Co., Inc.
Frick-Reid Supply Corp.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Gas Storage—
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
J. P. Devine Mfg. Co., Inc.
Hedges-Walsh-Weidner Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Oil Well Supply Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Stacey Engineering Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Western Gas Construction Co.
Wyatt Metal & Boiler Works

Tanks—Gasoline Storage—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
Butler Mfg. Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Drane-Humphrey Co., Inc.
Gilbert & Barker Mfg. Co.
Hedges-Walsh-Weidner Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Pressed Steel Car Co.
Stacey Engineering Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Lead-Lined—
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Leader Iron Works, Inc.
National Lead Co.
Sowers Mfg. Co.

Tanks—Mixing—
Alco Products, Inc.
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Binks Manufacturing Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Duriron Co.
Freeman Mfg. Co.
Hedges-Walsh-Weidner Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Supply Co.
North American Car Corp.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Pressed Steel Car Co.
Sowers Manufacturing Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Pressure—
Alco Products, Inc.
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
J. P. Devine Mfg. Co., Inc.
Donovan Boilers Works, Inc.
Freeman Mfg. Co.
Hedges-Walsh-Weidner Co.
Ingersoll-Rand Co.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Sowers Manufacturing Co.
Stacey Engineering Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Tanks—Process—
Alco Products, Inc.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Freeman Mfg. Co.
Hedges-Walsh-Weidner Co.
Kaw Steel Construction Co.
Leader Iron Works, Inc.
McClintic-Marshall Co.
North American Car Corp.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Sowers Manufacturing Co.
Stacey Engineering Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Riveted—
Alco Products, Inc.
American Car & Foundry Co.
American Rolling Mill Co.
Biggs Boiler Works Co.
Miles P. Brown Boiler Works
J. A. Campbell Co.
Chicago Bridge & Iron Works
J. P. Devine Mfg. Co., Inc.
Donovan Boiler Works, Inc.
Freeman Mfg. Co.
General American Tank Car Corp.
Hedges-Walsh-Weidner Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Supply Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Stacey Engineering Co.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Tanks—Rubber-Lined—
Biggs Boiler Works Co.

Tanks—Run Down—
Alco Products, Inc.
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
Butler Mfg. Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Drane-Humphrey Co., Inc.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
North American Car Corp.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Scrubber—
Alco Products, Inc.
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
Butler Mfg. Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Drane-Humphrey Co., Inc.
Hedges-Walsh-Weidner Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Tank Co.
North American Car Corp.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Smith Separator Co.
Southwestern Engineering Corp.
Stacey Engineering Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Settling—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Drane-Humphrey Co., Inc.
Frick-Reid Supply Corp.
Hedges-Walsh-Weidner Co.
Kaw Steel Construction Co.
Leader Iron Works, Inc.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
National Tank Co.
North American Car Corp.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Stock—
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Continental Supply Co.
Donovan Boiler Works, Inc.
Drane-Humphrey Co., Inc.
Kaw Steel Construction Co.
Leader Iron Works, Inc.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
National Tank Co.
North American Car Corp.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Treating—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
J. P. Devine Mfg. Co., Inc.
Freeman Mfg. Co.
Hedges-Walsh-Weidner Co.
Kaw Steel Construction Co.
Leader Iron Works, Inc.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
National Tank Co.
North American Car Corp.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Truck—
American Steel Works
American Tank & Equipment Corp.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Columbian Steel Tank
Drane-Humphrey Co., Inc.
Freeman Mfg. Co.
Hopper Machine Works, Inc.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Tank Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Tanks—Underground—
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Columbian Steel Tank
Freeman Mfg. Co.
Gilbert & Barker Mfg. Co.
Kaw Steel Construction Co.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Tank Co.
North American Car Corp.
Pittsburgh-Des Moines Steel Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Vapor Proof—
American Tank & Equipment Corp.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Freeman Mfg. Co.
Kaw Steel Construction Co.
Leader Iron Works, Inc.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Water—
Alco Products, Inc.
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Continental Supply Co.
Freeman Mfg. Co.
Frick-Reid Supply Corp.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Stacey Engineering Co.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Wyatt Metal & Boiler Works

Tanks—Welded—
Alco Products, Inc.
American Rolling Mill Co.
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
J. P. Devine Mfg. Co., Inc.
Donovan Boiler Works, Inc.
Drane-Humphrey Co., Inc.
Electric Arc Cutting & Welding Co.
Freeman Mfg. Co.
Frick-Reid Supply Corp.
Hedges-Walsh-Weidner Co.
Hopper Machine Works, Inc.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
National Tube Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Standard Steel Works
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Western Gas Construction Co.
Wyatt Metal & Boiler Works

Tanks—Wood—
American Steel Works
American Tank & Equipment Corp.
Black, Sivalls & Bryson, Inc.
Butler Mfg. Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Maloney Tank Mfg. Co.
National Supply Co.
National Tank Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Tank Tops—
Barrett Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Chicago Bridge & Iron Works
Columbian Steel Tank
Hedges-Walsh-Weidner Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Wyatt Metal & Boiler Works

Taps—Tapered—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Landis Machine Co., Inc.
LeBus Rotary Tool Works
Lucey Products Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Republic Supply Co.
Shaffer Tool Works
Walworth Co.
Wyatt Metal & Boiler Works

Taps—Thread Cutting—
Acme Fishing Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Landis Machine Co., Inc.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Walworth Co.

Taps—Valve—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Supply Co.
Jarecki Manufacturing Co.
Landis Machine Co., Inc.
National Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Tape—Gas Main—
Safety Gas Main Stopper Co.

Tapes—Measuring—
Lufkin Rule Co.

Testers—Formation—
Brewster Co., Inc.
Hercules Supply Co.
Hughes Tool Co.
Jarecki Manufacturing Co.
National Supply Co.

Thermocouples—
Bristol Co.
Brown Instrument Co.
General Electric Co.
Hills-McCanna Co.
Taylor Instrument Companies

Thermometers—
Bridgeport Machine Co.
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Foxboro Co., Inc
Frick-Reid Supply Corp.
General Electric Co.
International Supply Co.
Littleford Brothers
National Supply Co.
Republic Supply Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies
Westcott & Greis, Inc.

Thermometers—Dial—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Foxboro Co., Inc.
Hercules Supply Co.
National Supply Co.
C. J. Tagliabue Mfg. Co.

Thermometers—Dial Indicating—
American Steel Works
Bristol Co.
Brown Instrument Co.
Foxboro Co., Inc.
Hercules Supply Co.
Littleford Brothers
National Supply Co.
C. J. Tagliabue Mfg. Co.

Thermometers—Electric Resistance—
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
National Supply Co.

Thermometers—Indicating—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Foxboro Co., Inc.
Hercules Supply Co.
Martin-Decker Corp.
National Supply Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies

Thermometers—Industrial—
American Steel Works
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Foxboro Co., Inc.
National Supply Co.
Republic Supply Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies

Thermometers—Laboratory—
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Hercules Supply Co.
Republic Supply Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies

Thermometers—Recording—
American Steel Works
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Foxboro Co., Inc
Hercules Supply Co.
Republic Supply Co.
C. J. Tagliabue Mfg. Co.
Taylor Instrument Companies
Westcott & Greis, Inc.

Thief Hatches—
Chicago Bridge & Iron Works
Columbian Steel Tank
Hercules Supply Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
Maloney Tank Mfg. Co.
McClintic-Marshall Co.
National Tank Co.
Oil Conservation Engineering Co.
Westcott & Greis, Inc.

Thieves—Oil—
Continental Supply Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Hills-McCanna Co.
International Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
C. J. Tagliabue Mfg. Co.

Threading Machines—
Bignall & Keeler Machine Works
Continental Supply Co.
Crane Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Landis Machine Co., Inc.
D. S. Mair Machinery Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Thread Protectors—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Brewster Co., Inc.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Pittsburgh Screw & Bolt Corp.
Spang & Co.
Youngstown Sheet & Tube Co.

Tightener—Belt—
Allis-Chalmers Mfg. Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Link Belt Co.
National Supply Co.
Oil Well Supply Co.
Joseph Reid Gas Engine Co.
Republic Supply Co.

Tin Plates—Bright—
American Sheet & Tin Plate Co.
Hercules Supply Co.
Republic Steel Corp.
Youngstown Sheet & Tube Co.

Tin Plates—Roofing—
American Sheet & Tin Plate Co.
Hercules Supply Co.
Republic Steel Corp.
Youngstown Sheet & Tube Co.

Tires—Automobile—
Hercules Supply Co.
General Tire & Rubber Co.
Goodyear Tire & Rubber Co., Inc.

Tongs—
Armstrong Bros. Tool Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Byron Jackson Co.
Columbus Forge & Iron Co.
Frick-Reid Supply Corp.
Guiberson Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
LeBus Rotary Tool Works
Murray Tool & Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Tongs—Back Up—
Armstrong Bros. Tool Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Tongs—Breakout—
Armstrong Bros. Tool Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
LeBus Rotary Tool Works
Lucey Products Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Tongs—Casing—
Armstrong Bros. Tool Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.

Bridgeport Machine Co.
Byron Jackson Co.
Columbus Forge & Iron Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Guiberson Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
LeBus Rotary Tool Works
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Tongs—Chain Pipe—
Armstrong Bros. Tool Co.
Bridgeport Machine Co.
Columbus Forge & Iron Co.
Continental Supply Co.
Crane Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Tongs—Core Barrel—
Baker Oil Tools, Inc.
Bridgeport Machine Co.
Hercules Supply Co.
International Supply Co.
Oil Well Supply Co.

Tongs—Pipe—
Armstrong Bros. Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Chas. A. Butler Mfg. Co.
Byron Jackson Co.
Columbus Forge & Iron Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Trimont Manufacturing Co.

Tongs—Pipe and Tubing—
Armstrong Bros. Tool Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Byron Jackson Co.
Columbus Forge & Iron Co.
Continental Supply Co.
Crane Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
National Supply Co.
National Transit Pump & Machine Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Tongs—Pipe Carrying—
Columbus Forge & Iron Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Republic Supply Co.

Tongs—Tool Joint—
Armstrong Bros. Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Byron Jackson Co.
Columbus Forge & Iron Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Guiberson Corp.
Hercules Supply Co.
Hughes Tool Co.
International Derrick & Equipment Co.
International Supply Co.
LeBus Rotary Tool Works
Lucey Products Corp.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Toolhouses—
American Iron & Machine Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Butler Mfg. Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
Houston Ready-Cut House Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Republic Supply Co.
Spengler Tool Co.

Tool Joints—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Doheny Stone Drill Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Republic Supply Co.
Shaffer Tool Works
Spang & Co.
Spengler Tool Co.

Tools—Grooving—
Haynes Stellite Co.

Tools—Milling—
American Iron & Machine Works Co.

Tools—Packer Setting—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Hercules Supply Co.
International Supply Co.
Layne & Bowler Co.
J. H. McEvoy & Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.

Tools—Shop—
Armstrong Bros. Tool Co.
Dresser & Gorton, Inc.
Hercules Supply Co.
International Supply Co.
Lufkin Rule Co.
D. S. Mair Machinery Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Trimont Manufacturing Co.
Walworth Co.

Tool Steel—
Dresser & Gorton, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Steel Corp.

Torches—Hand—
American Steel Works
Continental Supply Co.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.
Standard Steel Works
Victor Welding Equipment Co.

Torches—Kerosene—
American Steel Works
Continental Supply Co.
Frick-Reid Supply Corp.
Oil Well Supply Co.
Standard Steel Works

Torches—Welding and Cutting—
Linde Air Products Co.
Norvell-Wilder Supply Co.
Resistcor Engineering Corp.
Victor Welding Equipment Co.

Torsion Balances—
George Steiner, Inc.

Towers—Absorber—
Alco Products, Inc.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
J. P. Devine Mfg. Co., Inc.
Hedges-Walsh-Weidner Co.
International Derrick & Equipment Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
Arthur G. McKee & Co.
National Tank Co.
North American Car Corp.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Winkler-Koch Engineering Co.
Wyatt Metal & Boiler Works

Towers—Bubble—
Alco Products, Inc.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Goslin-Birmingham Mfg. Co., Inc.
Hedges-Walsh-Weidner Co.
International Derrick & Equipment Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Kirk-Morrow Iron Works, Inc.
Walter E. Lummus Co.
McClintic-Marshall Co.
Arthur G. McKee & Co.
National Supply Co.
National Tank Co.
North American Car Corp.
Oil Conservation Engineering Co.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Winkler-Koch Engineering Co.
Wyatt Metal & Boiler Works

Towers—Cooling—
Binks Manufacturing Co.
C. F. Braun & Co.
J. A. Campbell Co.
J. P. Devine Mfg. Co., Inc.
Fluor Corp., Ltd.
Foster Wheeler Corp.
International Derrick & Equipment Co.
Jackson Engineering Corp.
Kirk-Morrow Iron Works, Inc.
Marley Co.
McClintic-Marshall Co.
National Tank Co.
Oil Well Supply Co.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Edward Soph
Southwestern Engineering Corp.

Towers—Fractionating—
Alco Products, Inc.
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
Miles P. Brown Boiler Works
Butler Mfg. Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Hedges-Walsh-Weidner Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Kirk-Morrow Iron Works, Inc.
Walter E. Lummus Co
McClintic-Marshall Co.
Arthur G. McKee & Co.
National Tank Co.
North American Car Corp.
Oil Well Supply Co.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Winkler-Koch Engineering Co.
Wyatt Metal & Boiler Works

Towers—Spray Cooling—
Binks Manufacturing Co.
J. A. Campbell Co.
C. F. Braun & Co.
Foster Wheeler Corp.
Marley Co.
McClintic-Marshall Co.
National Tank Co.
Petroleum Engineering, Inc.

Towers—Water—
Black, Sivalls & Bryson, Inc.
Bridgeport Machine Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
Fluor Corp., Ltd.
Foster Wheeler Corp.
International Derrick & Equipment Co.
McClintic-Marshall Co.
Lee C. Moore & Co., Inc.
Oil Well Supply Co.
Pittsburgh-Des Moines Steel Co.

Towers—Welded—
E. B. Badger & Sons Co.
Biggs Boiler Works Co.
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Butler Mfg. Co.
Columbian Steel Tank
J. P. Devine Mfg. Co., Inc.
Hedges-Walsh-Weidner Co.
International Derrick & Equipment Co.
Jackson Engineering Corp.
Kaw Steel Construction Co.
M. W. Kellogg Co.
Kirk-Morrow Iron Works, Inc.
McClintic-Marshall Co.
National Tank Co.
Petroleum Engineering, Inc.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
A. O. Smith Corp.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Henry Vogt Machine Co.
Wyatt Metal & Boiler Works

Tractors—
Allis-Chalmers Mfg. Co.
Baash-Ross Tool Co.
Caterpillar Tractor Co.
Hercules Supply Co.
International Harvester Co. of America
Lucey Products Corp.
Resistcor Engineering Corp.
White Co.

Tractor Equipment—
Allis-Chalmers Mfg. Co.
Allsteel Products Mfg. Co., Inc.
Trackson Co.

Trailers—
Hercules Supply Co.
Kingham Trailer Co., Inc.
Resistcor Engineering Corp.
Springfield Wagon & Trailer Co.
Utility Trailer Mfg. Co.

Trailers—Truss Wheel—
Athey Truss Wheel Co.

Transformers—
Allis-Chalmers Mfg. Co.
Hercules Supply Co.
Oil Well Supply Co.
Wagner Electric Corp.
Westinghouse Electric & Mfg. Co.

Transformers—Electric—
Allis-Chalmers Mfg. Co.
General Electric Co.
Oil Well Supply Co.
Wagner Electric Corp.
Westinghouse Electric & Mfg. Co.

Transmission Belt—Rubber—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Traps—Air—
American Iron & Machine Works Co.
Armstrong Machine Co.
Fisher Governor Co.
Nellan Co., Ltd.
Strong, Carlisle & Hammond Co.

Traps—Ball Float—
Armstrong Machine Works
Davis Regulator Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Mfg. Co
Oil Well Supply Co.
Strong, Carlisle & Hammond Co

Traps—Gas—
Black, Sivalls & Bryson, Inc.
Fisher Governor Co.
Griscom-Russell Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Mfg. Co.
National Supply Co.
National Tank Co.
Smith Separator Co.
Strong, Carlisle & Hammond Co.
Tulsa Boiler & Machinery Co.

Traps—Gasoline—
Alco Products, Inc.
Armstrong Machine Works
Continental Supply Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
McAlear Mfg. Co.
National Supply Co.
Strong, Carlisle & Hammond Co.

Traps—Grease—
Armstrong Machine Works
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Mfg. Co
National Supply Co.
Strong, Carlisle & Hammond Co.

Traps—Oil—
Armstrong Machine Works
Black, Sivalls & Bryson, Inc.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Griscom-Russell Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Mfg. Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Strong, Carlisle & Hammond Co.

Traps—Steam—
Alco Products, Inc.
Armstrong Machine Works
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
George B. Limbert & Co.
Lucey Products Corp.
McAlear Mfg. Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Strong, Carlisle & Hammond Co.

Traps—Vacuum—
Armstrong Machine Works
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
McAlear Mfg. Co.
National Supply Co.
Strong, Carlisle & Hammond Co.

Traps—Water—
Alco Products, Inc.
Armstrong Machine Works
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
McAlear Mfg. Co
National Lead Co.
National Supply Co.
Oil Well Supply Co.
Strong, Carlisle & Hammond Co.

Traveling Blocks—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lufkin Foundry & Machine Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Williamsport Wire Rope Co.

Trays—Bubble—
Alco Products, Inc.
American Tank & Equipment Corp.
Jackson Engineering Corp.
Kaw Steel Construction Co.
M. W. Kellogg Co.
National Supply Co.
North American Car Corp.
Oil Conservation Engineering Co.
Ross-Meehan Foundries Co.
Tulsa Boiler & Machinery Co.
Winkler-Koch Engineering Co.

Treads—Steel—
Kaw Steel Construction Co.
Parkersburg Rig & Reel Co.
Standard Steel Works

Treaters—Continuous—
Black, Sivalls & Bryson, Inc.
Hercules Supply Co.
M. W. Kellogg Co.
Arthur G. McKee & Co.
Edward Soph

Treaters—Crude Oil—
Hercules Supply Co.
Hills-McCanna Co.
Arthur G. McKee & Co.
National Tank Co.

Treaters—Gasoline—
Black, Sivalls & Bryson, Inc.
Hercules Supply Co.
M. W. Kellogg Co.
Arthur G. McKee & Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.

Trenchers—Vertical Boom—
National Equipment Corp.

Tripods—Portable Pipe Line—
Hercules Supply Co.
Oil Well Supply Co.

Trucks—Motor—
Dodge Brothers Corp.
International Harvester Co. of America
Reo Motor Car Co.
White Co.

Tube Expanders—
Bridgeport Machine Co.
C. F. Braun & Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Key Boiler Equipment Co.
Murray Tool & Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Tulsa Boiler & Machinery Co.

Tube Supports—Heat Resisting—
Hercules Supply Co.
Midwest Piping & Supply Co., Inc.

Tube Turns—
Mooriane Co., Inc.
Tube Turns, Inc.

Tubes—
American Rolling Mill Co.
C. F. Braun & Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Midwest Piping & Supply Co., Inc.
National Lead Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Steel Corp.
Taubman Supply Corp.
Timken Roller Bearing Co.
Tulsa Boiler & Machinery Co.
Youngstown Sheet & Tube Co.

Tubes—Alloy Steel—
American Stainless Steel Co.
American Tank & Equipment Corp.
C. F. Braun & Co.
Crane Co.
Hercules Supply Co.
Kirk-Morrow Iron Works, Inc.
Midwest Piping & Supply Co., Inc.
National Tube Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Republic Steel Corp.
Taubman Supply Corp.
Timken Roller Bearing Co.
Tulsa Boiler & Machinery Co.

Tubes—Bailer—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
National Tube Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.

Tubes—Boiler—
American Rolling Mill Co.
Bethlehem Steel Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hopper Machine Works, Inc.
Hercules Supply Co.
International Supply Co.
Kaw Steel Construction Co.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Republic Steel Corp.
Taubman Supply Corp.
Timken Roller Bearing Co.
Tulsa Boiler & Machinery Co.

Tubes—Collapsible—
Hercules Supply Co.

Tubes—Condenser—
American Rolling Mill Co.
C. F. Braun & Co.
Foster Wheeler Corp.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Nickel Co., Inc.
National Tube Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Republic Steel Corp.
Southwestern Engineering Corp.
Taubman Supply Corp.
Timken Roller Bearing Co.
Tulsa Boiler & Machinery Co.

Tubes—Cracking Still—
Crane Co.
Frick-Reid Supply Corp.
M. W. Kellogg Co.
Midwest Piping & Supply Co., Inc.
National Tube Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Taubman Supply Corp.
Timken Roller Bearing Co.
Republic Steel Corp.

Tubes—Sheet Metal—
Oil Well Supply Co.

Tubes—Still—
Frick-Reid Supply Corp.
International Supply Co.
Midwest Piping & Supply Co., In .
National Tube Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Republic Steel Corp.
Southwestern Engineering Corp.
Superheater Co.
Taubman Supply Corp.
Timken Roller Bearing Co.

Tubes—Superheater—
Frick-Reid Supply Corp.
International Supply Co.
Midwest Piping & Supply Co., Inc.
National Tube Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Republic Steel Corp.
Superheater Co.
Taubman Supply Corp.
Timken Roller Bearing Co.

Tubing—
Baash-Ross Tool Co.
C. F. Braun & Co.
Bridgeport Machine Co.
Crane Co.
Doheny Stone Drill Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Nickel Co., Inc.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Midwest Piping & Supply Co., Inc.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
National Tube Co.
Oil Well Supply Co.
Power Piping Co.
Republic Steel Corp.
Spang, Chalfant & Co., Inc.
Taubman Supply Corp.
Timken Roller Bearing Co.
Youngstown Sheet & Tube Co

Tubing—Catchers—
Bridgeport Machine Co.
Byron Jackson Co.
California Manufacturing & Engineering Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Guiberson Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Smith Separator Co.
Spang & Co.

Tubing Heads—
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Cameron Iron Works, Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Hercules Tool Co.
Hopper Machine Works, Inc.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
J. H. McEvoy & Co.
Murray Tool & Supply Co.
National Tank Co.
Oil Well Improvements Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Shaffer Tool Works
W-K-M Co.

Tubing—Installation Under Pressure—
Southern States Co., Inc.

Tubing—Slips and Spiders—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Cameron Iron Works, Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
Guiberson Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Lucey Products Corp.
J. H. McEvoy & Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Improvements Co.
Oil Well Supply Co.
Petroleum Equipment Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Shaffer Tool Works
W-K-M Co.

Tubing—Steel—
Baash-Ross Tool Co.
C. F. Braun & Co.
Central Tube Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
Layne & Bowler Co.
George B. Limbert & Co.
Midwest Piping & Supply Co., Inc
National Supply Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Steel Corp.
Republic Supply Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Taubman Supply Corp.
Timken Roller Bearing Co.
Tulsa Boiler & Machinery Co.
Youngstown Sheet & Tube Co.

Tubing—Steel, Seamless—
Baash-Ross Tool Co.
C. F. Braun & Co.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
Layne & Bowler Co.
George B. Limbert & Co.
Lucey Products Corp.
Midwest Piping & Supply Co., Inc
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Republic Supply Co.
Spang, Chalfant & Co., Inc.
Taubman Supply Corp.
Timken Roller Bearing Co.
Youngstown Sheet & Tube Co.

Tubing—Stops—
Byron Jackson Co.
Continental Supply Co.
Frick-Reid Supply Corp.
International Supply Co.
Lucey Products Corp.
Oil Well Supply Co.

Tubing Strippers—
Allsteel Products Mfg. Co., Inc.
Continental Supply Co.
Frick-Reid Supply Corp.
Guiberson Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
J. H. McEvoy & Co.
National Supply Co.
Oil Well Supply Co.

Tubular Goods—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jones & Laughlin Steel Corp.
Layne & Bowler Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Steel Products Co.
Republic Steel Corp.
Republic Supply Co.
A. O. Smith Corp.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Taubman Supply Corp.
Youngstown Sheet & Tube Co

Tubular Goods—Wrought Iron—
Bridgeport Machine Co.
A. M. Byers Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Layne & Bowler Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Iron Co.
Republic Supply Co.
South Chester Tube Co.

Tug Rims—Steel—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Marion Machine Foundry & Supply Co.
National Supply Co.
Parkersburg Rig & Reel Co.

Turbines—For Lighting Equipment
Coppus Engineering Corp.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Moon Mfg. Co.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.

Turbines—Steam—
Allis-Chalmers Mfg. Co.
Coppus Engineering Corp.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
International Supply Co.
Moon Mfg. Co.
Mooriane Co., Inc.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Edward Soph
Terry Steam Turbine Co.
Westinghouse Electric & Mfg. Co.

Turbines—Water—
Allis-Chalmers Mfg. Co.
General Electric Co.
International Supply Co.
Mooriane Co., Inc.
I. P. Morris & De La Vergne, Inc.
Westinghouse Electric & Mfg. Co.

Turbo-Generators—
Allis-Chalmers Mfg. Co.
Brauer Machine & Supply Co.
Bridgeport Machine Co.
Continental Supply Co.
Coppus Engineering Corp.
Frick-Reid Supply Corp.
General Electric Co.
Hercules Supply Co.
Moon Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Terry Steam Turbine Co.
Westinghouse Electric & Mfg. Co.

Turnbuckles—
American Steel & Wire Co.
Bethelehem Steel Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Texas Steel Co.
Union Machine Co.

U

Underreamers—Cable Tool—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Byron Jackson Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Grant Oil Tools Co.
Guiberson Corp
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.

Underreamers—Rotary—
Alco Tool Co., Ltd.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Doheny Stone Drill Co.
Globe Oil Tools Co.
Grant Oil Tool Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
MacClatchie Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.

Units—Pumping—
B. G. Gobie Mfg. Co.

Unions—
Axelson Mfg. Co., Ltd.
Bridgeport Machine Co.
Crane Co.
E. M. Dart Mfg. Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kennedy Valve Mfg. Co.
Lunkenheimer Co.
MacClatchie Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Youngstown Sheet & Tubing Co.

Unions—Box—
Crane Co.
E. M. Dart Mfg. Co.
Hercules Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
Oil Well Supply Co.
Henry Vogt Machine Co.

Unions—Flanged—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
E. M. Dart Mfg. Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kerotest Manufacturing Co.
George B. Limbert & Co.
Lucey Products Corp.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Union Machine Co.
Henry Vogt Machine Co.
Walworth Co.
Watson Stillman Co.

Unions—Pipe—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
E. M. Dart Mfg. Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
Lunkenheimer Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Union Steel Casting Co.
Henry Vogt Machine Co.
Walworth Co.
Watson Stillman Co.
Youngstown Sheet & Tube Co.

Unions—Screwed—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
E. M. Dart Mfg. Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Lucey Products Corp.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Stockham Pipe & Fittings Co.
Taubman Supply Corp.
Union Steel Casting Co.
Henry Vogt Machine Co.
Walworth Co.
Watson Stillman Co.
Youngstown Sheet & Tube Co.

Unions—Special—
Baash-Ross Tool Co.
Continental Supply Co.
Crane Co.
E. M. Dart Mfg. Co.
Elliott Manufacturing Co.
Hercules Supply Co.
Kerotest Manufacturing Co.
MacClatchie Manufacturing Co.
Moser Manufacturing Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Shaffer Tool Works
Henry Vogt Machine Co.
Watson Stillman Co.
Youngstown Sheet & Tube Co.

Units—Distillation—
Alco Oil Tools Co., Inc.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
J. P. Devine Mfg. Co., Inc.
Griscom-Russell Co.
Jackson Engineering Corp.
M. W. Kellogg Co.
Arthur G. McKee & Co.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Winkler-Koch Engineering Co.

Units—Electric Generating—
Allis-Chalmers Mfg. Co.
Bridgeport Machine Co.
Clark Brothers Co.
Continental Supply Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
General Electric Co.
Moon Manufacturing Co.
National Supply Co.
Oil Well Supply Co.
Young Engine Corp.

Units—Reduction—
Allis-Chalmers Mfg. Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Foote Bros. Gear & Machine Co.
Hercules Supply Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
National Supply Co.
Oil Well Supply Co.

Units—Reduction Gears—
Allis-Chalmers Mfg. Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Ensaco Derrick & Equipment Co.
Foote Bros. Gear & Machine Co.
Hercules Supply Co.
International Derrick & Equipment Co.
Link Belt Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Mooriane Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Joseph Reid Gas Engine Co.
Union Machine Co.

Units—Refrigeration—
Alco Products, Inc.
General Electric Co.
Grinnell Co., Inc.
Lufkin Foundry & Machine Co.
Henry Vogt Machine Co.

V

Vacuum Apparatus—
Alco Products, Inc.
Black, Sivalls & Bryson, Inc.
Chicago Pneumatic Tool Co.
Consolidated Ashcroft Hancock Co., Inc.
J. P. Devine Mfg. Co., Inc.
Foster Wheeler Corp.
Worthington Pump & Machinery Corp.

Valves—Acid Resisting—
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Durion Co.
Edward Valve & Mfg. Co.
B. F. Goodrich Rubber Co.
Hercules Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co
Kerotest Manufacturing Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Merco Nordstrom Valve Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
William Powell Co.
Reading Steel Casting Co., Inc.
Edward Soph
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.

Valves—Air—
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Fisher Governor Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
McAlear Mfg. Co.
Merco Nordstrom Valve Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Strong, Carlisle & Hammond Co.
Henry Vogt Machine Co.
Walworth Co.
Westcott Valve Co.

Valves—Ammonia—
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Fisher Governor Co.
Hercules Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kerotest Manufacturing Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Henry Vogt Machine Co.

Valves—Angle—
Bridgeport Machine Co.
Chapman Valve Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Edward Valve & Mfg. Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Murray Tool & Supply Co.
Nelian Co., Ltd.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.

Valves—Angle Plug—
Continental Supply Co.
Crane Co.
Darling Valve & Mfg. Co.
Edward Valve & Mfg. Co.
Hercules Supply Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Taubman Supply Corp.
Henry Vogt Machine Co.

Valves—Automatic Control—
Brauer Machine & Supply Co.
Bristol Co.
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Crane Co.
Davis Regulator Co.
Edward Valve & Mfg. Co.
Fisher Governor Co.
Foxboro Co., Inc.
Hanlon-Waters, Inc.
Hercules Supply Co.
Kerotest Manufacturing Co.
Ludlow Valve Mfg. Co.
McAlear Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Nelian Co., Ltd.
Norvell-Wilder Supply Co.

Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Reading Steel Casting Co., Inc.
Strong, Carlisle & Hammond Co
C. J. Tagliabue Mfg. Co.
Taubman Supply Corp.
Walworth Co.

Valves—Automatic Level Control—
Brown Instrument Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Davis Regulator Co.
Fisher Governor Co.
Foxboro Co., Inc
Hanlon-Waters, Inc.
Ludlow Valve Mfg. Co.
Mason Regulator Co.
McAlear Mfg. Co.
Mooriane Co., Inc.
National Supply Co.
National Tank Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.

Valves—Automatic Whistle—
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
Ludlow Valve Mfg. Co.
McAlear Mfg. Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.

Valves—Back Pressure—
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Chaplin-Fulton Mfg. Co.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Davis Regulator Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kenedy Valve Mfg. Co.
Larkin Packer Co.
Layne & Bowler Co.
George B. Limbert & Co.
Linde Air Products Co.
Ludlow Valve Mfg. Co.
Mason Regulator Co.
McAlear Mfg. Co.
J. H. McEvoy & Co.
Mooriane Co., Inc.
National Supply Co.
National Tank Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Pittsburgh Equitable Meter Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Edward Soph
C. J. Tagliabue Mfg. Co.
Walworth Co.

Valves—Balanced Control—
Black, Sivalls & Bryson, Inc.
Brown Instrument Co.
Chaplin-Fulton Mfg. Co.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Foxboro Co., Inc.
Hanlon-Waters, Inc.
Hercules Supply Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Mason Regulator Co.
Mooriane Co., Inc.
National Tank Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Reading Steel Casting Co., Inc.
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.

Valves—Ball—
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
National Supply Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Henry Vogt Machine Co.

Valves—Blow-Off—
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Edward Valve & Mfg. Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
George B. Limbert & Co.
Lucey Products Corp.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
Merco Nordstrom Valve Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Strong, Carlisle & Hammond Co.
Taubman Supply Corp.
Walworth Co.
Watson Stillman Co.
Westcott Valve Co.

Valves—Brass—
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hamer Oil Tool Co., Ltd.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co
George B. Limbert & Co.
Mason Regulator Co.
Merco Nordstrom Valve Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Strong, Carlisle & Hammond Co.
Taubman Supply Corp.
Walworth Co.
Watson Stillman Co.

Valves—Brass and Bronze—
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hamer Oil Tool Co., Ltd.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Lunkenheimer Co.
Mason Regulator Co.
Merco Nordstrom Valve Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Strong, Carlisle & Hammond Co.
Taubman Supply Corp.
Walworth Co.
Watson Stillman Co.

Valves—Breather—
Chicago Bridge & Iron Works
Crane Co.
Darling Valve & Mfg. Co.
Hamer Oil Tool Co., Ltd.
Hanlon-Waters, Inc.
Hercules Supply Co.
Ludlow Valve Mfg. Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.

Valves—By-Pass—
C. F. Braun & Co.
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Edward Valve & Mfg. Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Griscom-Russell Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Ohio Injector Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Taubman Supply Corp.
Walworth Co.
Westcott Valve Co.

Valves—Cast Steel—
Chapman Valve Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
DeSoto Foundry & Machine Co., Ltd.
Edward Valve & Mfg. Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hamer Oil Tool Co., Ltd.
Hanlon-Waters, Inc.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
Kerotest Manufacturing Co.
George B. Limbert & Co.
Lucey Products Corp.
Lunkenheimer Co.
Merco Nordstrom Valve Co.
National Supply Co.
National Tank Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Strong, Carlisle & Hammond Co.
Taubman Supply Corp.
Walworth Co.
Watson Stillman Co.
Westcott Valve Co.

Valves—Check—
Bridgeport Machine Co.
Byron Jackson Co.
Chapman Valve Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
DeSoto Foundry & Machine Co., Ltd.
Duriron Co.
Edward Valve & Mfg. Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co
Kerotest Manufacturing Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
Murray Tool & Supply Co.
National Supply Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Equipment Co. of Texas, Inc.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.
Watson Stillman Co.
Westcott Valve Co.

Valves—Christmas Tree—
Baash-Ross Tool Co.
Bridgeport Machine Co.
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Darling Valve & Mfg. Co.
DeSoto Foundry & Machine Co., Ltd.
Edward Valve & Mfg. Co.
Frick-Reid Supply Corp.
Griscom-Russell Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
Kerotest Manufacturing Co.
Lucey Products Corp.
Ludlow Valve Mfg. Co.
Merco Nordstrom Valve Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Resistcor Engineering Corp.
Taubman Supply Corp.
Walworth Co.
Westcott Valve Co.
W-K-M Co., Inc.

Valves—Drain—
Chapman Valve Mfg. Co.
Crane Co.
Edward Valve & Mfg. Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
J. H. McEvoy & Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.

Valves—Drilling—
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bridgeport Machine Co.
Chapman Valve Mfg. Co
Continental Supply Co.
Crane Co.
Darling Valve & Mfg. Co.
DeSoto Foundry & Machine Co., Ltd.
Frick-Reid Supply Corp.
Griscom-Russell Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Jarecki Manufacturing Co.
Kennedy Valve Mfg. Co.
Kerotest Manufacturing Co.
Lucey Products Corp.
Ludlow Valve Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Resistcor Engineering Corp.
Taubman Supply Corp.
Walworth Co.
Westcott Valve Co.

Valves—Drop Forged Steel—
Bridgeport Machine Co.
California Manufacturing & Engineering Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Darling Valve & Mfg. Co.
Edward Valve & Mfg. Co.
Hercules Supply Co.
International Supply Co.
George B. Limbert & Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.
Watson Stillman Co.

Valves—Exhaust Relief—
American Car & Foundry Co.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Davis Regulator Co.
Edward Valve & Mfg. Co.
Fisher Governor Co.
Hercules Supply Co.
International Supply Co.
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Mason Regulator Co.
McAlear Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Pittsburgh Equitable Meter Co.
Reading Steel Casting Co., Inc.
Taubman Supply Corp.
Worthington Pump & Machinery Corp.

Valves—Float—
Alco Tool Co., Ltd.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Baker Oil Tools, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Doheny Stone Drill Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Larkin Packer Co.
LeBus Rotary Tool Works
George B. Limbert & Co.
Lucey Products Corp.
Ludlow Valve Mfg. Co.
Mason Regulator Co.
McAlear Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Edward Soph
Walworth Co.

Valves—Flow Line—
Baash-Ross Tool Co.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
Ludlow Valve Mfg. Co.
Mason Regulator Co.
Merco Nordstrom Valve Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
William Powell Co.
Reading Steel Casting Co., Inc.
Resistcor Engineering Corp.
Walworth Co.
Westcott Valve Co.

Valves—Gate—
Baker Oil Tools, Inc.
Bridgeport Machine Co.
Chapman Valve Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Darling Valve & Mfg. Co.
DeSoto Foundry & Machine Co., Ltd.
Duriron Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers.
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
George B. Limbert & Co.
Lucey Products Corp.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Resistcor Engineering Corp.
Taubman Supply Corp.
Henry Vogt Machine Co.
W-K-M Co.
Walworth Co.
Watson Stillman Co.
Western Gas Construction Co.
Westcott Valve Co.

Valves—Gate—Acid Resisting—
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Darling Valve & Mfg. Co.
Duriron Co.
B. F. Goodrich Rubber Co.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Taubman Supply Corp.
Edward Soph
Walworth Co.

Valves—Globe—
Ajax Iron Works
Bridgeport Machine Co.
Chapman Valve Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Edward Valve & Mfg. Co.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Strong, Carlisle & Hammond Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.

Valves—High Pressure—
Bridgeport Machine Co.
Chapman Valve Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Edward Valve & Mfg. Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
McAlear Mfg. Co.
Merco Nordstrom Valve Co.
Murray Tool & Supply Co.
National Supply Co.
National Tank Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Strong, Carlisle & Hammond Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.
Watson Stillman Co.
Westcott Valve Co.

Valves—Hydraulic—
Bridgeport Machine Co.
Chapman Valve Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Emsco Derrick & Equipment Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Hughes Tool Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
McAlear Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.
Watson Stillman Co.
Westcott Valve Co.

Valves—Iron—
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Edward Valve & Mfg. Co.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Lunkenheimer Co.
Mason Regulator Co.
McAlear Mfg. Co.
Merco Nordstrom Valve Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Taubman Supply Corp.
Walworth Co.
Westcott Valve Co.
Western Gas Construction Co.

Valves—Lever—
Bridgeport Machine Co.
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Darling Valve & Mfg. Co.
Davis Regulator Co.
Fisher Governor Co.
Hamer Oil Tool Co., Ltd.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Kennedy Valve Mfg. Co
George B. Limbert & Co.
Lucey Products Corp.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
McAlear Mfg. Co.
Merco Nordstrom Valve Co.
National Supply Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Taubman Supply Corp.
Walworth Co.

Valves-Liquefied Petroleum—
Crane Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
Kerotest Mfg. Co.
Ludlow Valve Mfg. Co.
Mason Regulator Co.
Merco Nordstrom Valve Co.
National Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Henry Vogt Machine Co.

Valves—Lubricated Plug—
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Duriron Co.
Hamer Oil Tool Co., Ltd.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Merco Nordstrom Valve Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Taubman Supply Corp.

Valves—Needle—
Bridgeport Machine Co.
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Edward Valve & Mfg. Co.
Foxboro Co., Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kerotest Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
McAlear Mfg. Co
Meriam Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Taubman Supply Corp.
Victor Welding Equipment Co.
Henry Vogt Machine Co.
Walworth Co.
Westcott & Greis, Inc.

Valves—Nonreturn—
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Edward Valve & Mfg. Co.
Fisher Governor Co.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
McAlear Mfg. Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
William Powell Co.
Walworth Co.

Valves—Plug—
Baash-Ross Tool Co.
Bartlesville Supply Co.
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Doheny Stone Drill Co.
Duriron Co.
Edward Valve & Mfg. Co.
Elliott Mfg. Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hanlon-Waters, Inc.
Hercules Supply Co.
Ludlow Valve Mfg. Co.
International Supply Co.
Merco Nordstrum Valve Co.
Michigan Valve & Foundry Co.
National Supply Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Castings Co., Inc.
Taubman Supply Corp.
Henry Vogt Machine Co.

Valves—Pressure Relief—
Chaplin-Fulton Mfg. Co.
Chapman Valve Mfg. Co.
Chicago Bridge & Iron Works
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Columbian Steel Tank
Crane Co.
Crosby Steam Gage & Valve Co.
Davis Regulator Co.
Fisher Governor Co.
Hanlon-Waters, Inc.
International Supply Co.
Kennedy Valve Mfg. Co
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Mason Regulator Co.
McAlear Mfg. Co.
Murray Tool & Supply Co.
National Tank Co.
National Supply Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Pittsburgh Equitable Meter Co.
Reading Steel Casting Co., Inc.
Taubman Supply Corp.
Edward Soph
Walworth Co.
Watson Stillman Co.
Westcott & Greis, Inc.

Valves—Pump—
Allen-Oliver Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Equipment Co.
Continental Supply Co.
Crosby Steam Gage & Valve Co.
Frick-Reid Supply Corp.
Garlock Packing Co.
Gaso Pump & Burner Mfg. Co.
Gould Pumps, Inc.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Ludlow Valve Mfg. Co.
MacClatchie Mfg. Co.
Mason Regulator Co.
National Supply Co.
National Transit Pump & Machine Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Shaffer Tool Works
Titusville Iron Works
Victor Balata & Textile Belting Co.
Watson Stillman Co.
Wilson-Snyder Mfg. Corp.
Worthington Pump & Machinery Corp.
Youngstown Sheet & Tube Co.

Valves—Quarter Turn—
Crane Co.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Merco Nordstrom Valve Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.

Valves—Quick Opening and Closing—
Bridgeport Machine Co.
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Darling Valve & Mfg. Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Lucey Products Corp.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
McAlear Mfg. Co.
Merco Nordstrom Valve Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Taubman Supply Corp.
Walworth Co.
Westcott & Greis, Inc.

Valves—Reducing—
Bridgeport Machine Co.
Chaplin-Fulton Mfg. Co.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
McAlear Mfg. Co
Mason Regulator Co.
Moorlane Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Reading Steel Casting Co., Inc.
Edward Soph
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.
Victor Welding Equipment Co.
Westcott & Greis, Inc.

Valves—Regulating—
Brown Instrument Co.
Chaplin-Fulton Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Edward Valve & Mfg. Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
McAlear Mfg. Co
Mason Regulator Co.
Moorlane Co., Inc.
National Airoil Burner Co.
National Supply Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Reading Steel Casting Co., Inc.
Edward Soph
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.
Taubman Supply Corp.
Westcott & Greis, Inc.

Valves—Relief—
Chaplin-Fulton Mfg. Co.
Chapman Valve Mfg. Co
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Davis Regulator Co.
Edward Valve & Mfg. Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
McAlear Mfg. Co.
Mason Regulator Co.
Murray Tool & Supply Co.
National Supply Co.
National Tank Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Pittsburgh Equitable Meter Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Edward Soph
Stacey Engineering Co.
Taubman Supply Corp.
Walworth Co.
Westcott & Greis, Inc.

Valves—Safety—
Bridgeport Machine Co.
Chaplin-Fulton Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Frick-Reid Supply Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
McAlear Mfg. Co.
Mason Regulator Co.
Murray Tool & Supply Co.
National Supply Co.
National Tank Co.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
William Powell Co.
Republic Supply Co.
Shaffer Tool Works
Titusville Iron Works Co.
Walworth Co.
Watson Stillman Co.
Westcott & Greis, Inc.

Valves—Safety Drill Stem—
Bridgeport Machine Co.
Hercules Supply Co.
International Supply Co.
LeBus Rotary Tool Works
Lucey Products Corp.
Ludlow Valve Mfg. Co.
Mason Regulator Co.
National Supply Co.
Oil Well Supply Co.

Valves—Shut Off—
Bridgeport Machine Co.
Crane Co.
Darling Valve & Mfg. Co.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
Ludlow Valve Mfg. Co.
Mason Regulator Co.
Merco Nordstrom Valve Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Reading Steel Casting Co., Inc.
Shaffer Tool Works
Henry Vogt Machine Co.

Valves—Slush Pump—
Byron Jackson Co.
Hamer Oil Tool Co., Ltd.
Mason Regulator Co.

Valves—Standing—
Axelson Mfg. Co., Ltd.
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Ludlow Valve Mfg. Co.
Mason Regulator Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Reading Steel Casting Co., Inc.
Republic Supply Co.
W-K-M Co.

Valves—Steam—
Bridgeport Machine Co.
Chaplin-Fulton Mfg. Co.
Chapman Valve Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Davis Regulator Co.
Darling Valve & Mfg. Co.
Edward Valve & Mfg. Co
Fisher Governor Co.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
McAlear Mfg. Co.
Mason Regulator Co.
Merco Nordstrom Valve Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Strong, Carlisle & Hammond Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.
Westcott Valve Co.

Valves—Steel—
Chapman Valve Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
Davis Regulator Co.
DeSoto Foundry & Machine Co., Ltd.
Edward Valve & Mfg. Co.
Fisher Governor Co.
Hamer Oil Tool Co., Ltd.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Kennedy Valve Mfg. Co
Kerotest Mfg. Co.
George B. Limbert & Co.
Lucey Products Corp.
Lunkenheimer Co.
McAlear Mfg. Co.
Mason Regulator Co.
Merco Nordstrom Valve Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Sivyer Steel Casting Co.
Strong, Carlisle & Hammond Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.
Westcott Valve Co.

Valves—Stop—
Bridgeport Machine Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Darling Valve & Mfg. Co.
Edward Valve & Mfg. Co.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
International Supply Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
Merco Nordstrom Valve Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Strong, Carlisle & Hammond Co.
Swindell-Dressier Corp.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.

Valves—Swing Check—
Bridgeport Machine Co.
Byron Jackson Co.
Chapman Valve Mfg. Co.
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
Darling Valve & Mfg. Co.
DeSoto Foundry & Machine Co., Ltd.
Frick-Reid Supply Corp.
Gaso Pump & Burner Mfg. Co.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
George B. Limbert & Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Mason Regulator Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Taubman Supply Corp.
Henry Vogt Machine Co.
Walworth Co.
Westcott Valve Co.

Valves—Tank Car Unloading—
Continental Supply Co.
Crane Co.
Crosby Steam Gage & Valve Co.
General American Tank Car Corp.
Hamer Oil Tool Co., Ltd.
Hercules Supply Co.
Hills-McCanna Co.
Mason Regulator Co.
Merco Nordstrom Valve Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Edward Soph

Valves—Tank Relief—
Chicago Bridge & Iron Works
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co.
Crane Co.
Fisher Governor Co.
Hercules Supply Co.
Kennedy Valve Mfg. Co.
McAlear Mfg. Co.
Mason Regulator Co.
National Supply Co.
National Tank Co.
Neilan Co., Ltd.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Pittsburgh Equitable Meter Co.
Reading Steel Casting Co., Inc.
Westcott & Greis, Inc.

Valves—Tank Vent—
American Car & Foundry Co.
J. A. Campbell Co.
Chicago Bridge & Iron Works
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Hercules Supply Co.
Kennedy Valve Mfg. Co
National Tank Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Westcott & Greis, Inc.

Valves—Throttle—
Ajax Iron Works
Continental Supply Co.
Crane Co.
Edward Valve & Mfg. Co.
Frick-Reid Supply Corp.
Hanlon-Waters, Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Kerotest Mfg. Co.
George B. Limbert & Co.
Lunkenheimer Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Ohio Injector Co
Oil Well Supply Co.
William Powell Co.
Reading Steel Casting Co., Inc.
Republic Supply Co.
Strong, Carlisle & Hammond Co.
C. J. Tagliabue Mfg. Co.
Taubman Supply Corp.
Walworth Co.

Valves—Traveling—
Bradford Motor Works, Inc.
Chicago Bridge & Iron Works
Continental Supply Co.
Crane Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
Charles N. Hough Mfg. Co.

International Supply Co.
Jarecki Manufacturing Co.
Jenkins Brothers
Lucey Products Corp.
Larkin Packer Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Valves—Vacuum and Pressure Vent—
Chicago Bridge & Iron Works
Continental Supply Co.
Crane Co.
Davis Regulator Co.
Fisher Governor Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
McAlear Mfg. Co.
Mason Regulator Co.
National Supply Co.
National Tank Co.
Nellan Co., Ltd.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Reading Steel Casting Co., Inc.
Strong, Carlisle & Hammond Co.
Titusville Iron Works Co.
Henry Vogt Machine Co.
Westcott & Greis, Inc.

Valves—Working Barrel—
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
C. M. Hester Sons & Co., Inc.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Lucey Products Corp.
Mason Regulator Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.

Vapor Control—Tank—
Chicago Bridge & Iron Works
Hercules Supply Co.
Nellan Co., Ltd.

Vapor-Phase Refining—
Gray Processes Corp.

Vapor Recovery Systems—
American Iron & Machine Works Co.
Black, Sivalls & Bryson, Inc.
C. F. Braun & Co.
J. A. Campbell Co.
Davis Regulator Co.
J. P. Devine Mfg. Co., Inc.
Dresser & Gorton, Inc.
Fisher Governor Co.
Jackson Engineering Corp.
McAlear Mfg. Co.
National Supply Co.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.
Tulsa Boiler & Machinery Co.
Winkler-Koch Engineering Co.

Varnishes—
Continental Supply Co.
E. I. Du Pont de Nemours & Co. Inc.
General Paint Corp.
Hercules Supply Co.
Westinghouse Electric & Mfg. Co.

Ventilators—
Allen Corp.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
National Supply Co.
Tulsa Sheet Metal Co.

Ventilators—Rotary—
Allen Corp.
American Rolling Mill Co.
Bridgeport Machine Co.
Butler Mfg. Co.
Hercules Supply Co.
International Derrick & Equipment Co.
National Supply Co.
Southern Cornice Works
Tulsa Sheet Metal Co.

Ventilators—Steam Jet—
Hercules Supply Co.

Vessels—Monel Metal—
Biggs Boiler Works Co.

Vessels—Rubber-Lined—
Biggs Boiler Works Co.

Vessels—Welded Pressure—
Alco Products, Inc.
American Steel Works
American Tank & Equipment Corp.
Biggs Boiler Works Co.
Duriron Co.
Electric Arc Cutting & Welding Co.
Hercules Supply Co.
M. W. Kellogg Co.
Kirk-Morrow Iron Works, Inc.
Leader Iron Works, Inc.
Petroleum Equipment Co. of Texas, Inc.
Petroleum Iron Works Co.
Wyatt Metal & Boiler Works

Vises—Pipe—
Armstrong Bros. Tool Co.
Bridgeport Machine Co.
Columbus Forge & Iron Co.
Continental Supply Co.
Crane Co.
J. P. Devine Mfg. Co., Inc.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Grinnell Co., Inc.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
George B. Limbert & Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Nye Tool & Machine Works
Oil Well Supply Co.
Republic Supply Co.
Stacey Engineering Co.
Toledo Pipe Threading Machine Co.
Trimont Manufacturing Co.
Walworth Co.
Wright Mfg. Co.

Vises—Rock Bit—
American Iron & Machine Works Co.

W

Wagon—Casing—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Republic Supply Co.

Wagons—
Hercules Supply Co.
International Harvester Co. of America
National Supply Co.
Oil Well Supply Co.
Resistcor Engineering Corp.
Springfield Wagon & Trailer Co.

Wagons——Truss Wheel—
Athey Truss Wheel Co.
Hercules Supply Co.
National Supply Co.
Oil Well Supply Co.
Resistcor Engineering Corp.

Walking Beams—Steel—
Beaumont Iron Works Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lufkin Foundry & Machine Co.
Marion Machine Foundry & Supply Co.
Moser Manufacturing Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Walkways—Structural—
American Iron & Machine Works Co.
Beaumont Iron Works Co.
Black, Sivalls & Bryson, Inc.
Butler Mfg. Co.
Columbian Steel Tank
Hercules Supply Co.
International Derrick & Equipment Co.
Kaw Steel Construction Co.
Kirk-Morrow Iron Works, Inc.
North American Car Corp.
Parkersburg Rig & Reel Co.
Pittsburgh-Des Moines Steel Co.
Wyatt Metal & Boiler Works

Walls—Furnace—
Bigelow-Liptak Corp.

Warehouses—Sectional—
Houston Ready Cut House Co.

Washers—Air—
Alco Products, Inc.
Hercules Supply Co.
McClintic-Marshall Co.

Washers—Gas—
Hercules Supply Co.
McClintic-Marshall Co.
National Lead Co.

Water Cooling Equipment—
Alco Products, Inc.
Binks Manufacturing Co.
J. A. Campbell Co.
Crane Co.
Foster Wheeler Corp.
Griscom-Russell Co.
Hercules Supply Co.
Jackson Engineering Corp.
Marley Co.
Martin-Decker Corp.
Petroleum Engineering, Inc.
Southwestern Engineering Corp.

Waterproofing Materials—
Barrett Co.
Philip Carey Co.
General Paint Corp.
Headley Emulsified Products Co.
Hercules Supply Co.
Pure Oil Co.
Sullivan Co.
Technical Products, Inc.
Truscon Steel Co.
Victor Balata & Textile Belting Co.
Wailes, Dove-Hermiston Corp.

Water Purifiers—
Crane Co.
Griscom-Russell Co.
Hercules Supply Co.
Western Gas Equipment Co.

Water Softeners and Filters—
American Steel Works
Crane Co.
Griscom-Russell Co.
Hercules Supply Co.
Pittsburgh-Des Moines Steel Co.

Wax—
Deep Rock Oil Corp.
Gulf Refining Co.
Hercules Supply Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.

Wax Plant Machinery—
Alco Products, Inc.
Bethlehem Steel Co.
Goslin-Birmingham Mfg. Co., Inc.
Hercules Supply Co.
D. S. Mair Machinery Corp.
Henry Vogt Machine Co.

Weights—Counterbalance—
Allis-Chalmers Mfg. Co.
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Weight Indicator—Automatic Recording—
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lucey Products Corp.
Martin-Decker Corp.
National Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Republic Supply Co.

Weights—Rod Line—
Hercules Supply Co.
International Supply Co.
National Supply Co.
Oil Well Supply Co.

Welders—Arc—
Electric Arc Cutting & Welding Co.
General Electric Co.
Hercules Supply Co.
Lincoln Electric Co.
D. S. Mair Machinery Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Westinghouse Electric & Mfg. Co.

Welders—Automatic—
Electric Arc Cutting & Welding Co.
General Electric Co.
Hercules Supply Co.
Lincoln Electric Co.
Linde Air Products Co.
D. S. Mair Machinery Corp.
National Supply Co.
Oil Well Supply Co.

Welders—Electric Arc—
Electric Arc Cutting & Welding Co.
General Electric Co.
Hercules Supply Co.
Lincoln Electric Co.
D. S. Mair Machinery Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Schramm, Inc.
Westinghouse Electric & Mfg. Co.
Wilson Welder & Metals Co., Inc.

Welders—Spot and Butt—
Bridgeport Machine Co.
Electric Arc Cutting & Welding Co.
Hercules Supply Co.
D. S. Mair Machinery Corp.
Oil Well Supply Co.
Resistcor Engineering Corp.

Welders—Supplies—
Dresser & Gorton, Inc.
Electric Arc Cutting & Welding Co.
Globe Oil Tools Co.
Hercules Supply Co.
Lincoln Electric Co.
Linde Air Products Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Stoody Co.
Victor Welding Equipment Co.
Westinghouse Electric & Mfg. Co.
Wilson Welder & Metals Co., Inc.

Welding Accessories—Electric—
Electric Arc Cutting & Welding Co.
General Electric Co.
Hercules Supply Co.
Lincoln Electric Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Schramm, Inc.
Stoody Co.
Westinghouse Electric & Mfg. Co.
Wilson Welder & Metals Co., Inc.

Welding and Cutting Apparatus—
Dresser & Gorton, Inc.
Electric Arc Cutting & Welding Co.
General Electric Co.
Hercules Supply Co.
Linde Air Products Co.
D. S. Mair Machinery Corp.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Oxweld Acetylene Co.
Victor Welding Equipment Co.
Wilson Welder & Metals Co., Inc.

Welding Fittings—
Tube Turns, Inc.

Welding Rods—
American Rolling Mill Co.
American Steel & Wire Co.
Electric Arc Cutting & Welding Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
Hamer Oil Tool Co., Ltd.
Haynes Stellite Co.
Hercules Supply Co.
Lincoln Electric Co.
Linde Air Products Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Oxweld Acetylene Co.
Republic Steel Corp.
A. O. Smith Corp.
Stoody Co.
Victor Welding Equipment Co.
Westinghouse Electric & Mfg. Co.
Wickwire Spencer Steel Co.
Wilson Welder & Metals Co., Inc.
Youngstown Sheet & Tube Co.

Welding Supplies—
Dresser & Gorton, Inc.
Electric Arc Cutting & Welding Co.
General Electric Co.
Globe Oil Tools Co.
Hercules Supply Co.
Lincoln Electric Co.
Linde Air Products Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Okmulgee Boiler & Welding Works
Oxweld Acetylene Co.
Stoody Co.
Victor Welding Equipment Co.
Westinghouse Electric & Mfg. Co.
Wilson Welder & Metals Co., Inc.

Welding Wire—
American Rolling Mill Co.
American Steel & Wire Co.
Dresser & Gorton, Inc.
Electric Arc Cutting & Welding Co.
Frick-Reid Supply Corp.
Globe Oil Tools Co.
Hercules Supply Co.
Lincoln Electric Co.
Linde Air Products Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oxweld Acetylene Co.
Republic Steel Corp.
Stoody Co.
Victor Welding Equipment Co.
Westinghouse Electric & Mfg. Co.
Wickwire Spencer Steel Co.
Wilson Welder & Metals Co., Inc.
Youngstown Sheet & Tube Co.

Well Shooting—
National Supply Co.
Sureshot Torpedo Co.

Wheels—Bull—
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hedges-Walsh-Weidner Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Wheels—Calf—
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Wheels—Cutter—
Continental Supply Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.

Wheels—Pony—
Continental Supply Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.

Wheels—Sprocket—
Beaumont Iron Works Co.
Foote Bros. Gear & Machine Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Kirk-Morrow Iron Works, Inc.
Link Belt Co.
Lucey Products Corp.
Lufkin Foundry & Machine Co.
Lee C. Moore & Co., Inc.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.

Wheels—Truss Wagon—
Athey Truss Wheel Co.
Hercules Supply Co.
National Supply Co.
Oil Well Supply Co.

Whipstocks—
Acme Fishing Tool Co.
American Iron & Machine Works Co.
Baash-Ross Tool Co.
Beaumont Iron Works Co.
Brewster Co., Inc.
Bridgeport Machine Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Oil Well Supply Co.
Shaffer Tool Works
Spang & Co.

White Lead—
Bridgeport Machine Co.
Continental Supply Co.
Eagle-Picher Lead Co.
Frick-Reid Supply Corp.
General Paint Corp.
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Murray Tool & Supply Co.
National Lead Co.
National Supply Co.
Norvell-Wilder Supply Co.
Republic Supply Co.

Winches—
Allsteel Products Mfg. Co., Inc.
Paul Arbon & Co.
Bridgeport Machine Co.
Chain Belt Co.
Chicago Pneumatic Tool Co.
Hercules Supply Co.
Marion Machine Foundry & Supply Co.
National Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Republic Supply Co.
Resistcor Engineering Corp.
Ross-Meehan Foundries Co.

Winches—Cable—
Allsteel Products Mfg. Co., Inc.
Paul Arbon & Co.
Baash-Ross Tool Co.
Bridgeport Machine Co.
Miles P. Brown Boiler Works
Frick-Reid Supply Corp.
Hercules Supply Co.
Lucey Products Corp.
National Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.
Resistcor Engineering Corp.
Ross-Meehan Foundries Co.
W-K-M Co.
Westcott & Greis, Inc.

Winches—Capstan—
Hercules Supply Co.
Oil Well Supply Co.

Winches—Tank—
Black, Sivalls & Bryson, Inc.
Miles P. Brown Boiler Works
Chicago Bridge & Iron Works
Hercules Supply Co.
McClintic-Marshall Co.
National Supply Co.
Oil Conservation Engineering Co.
Oil Well Supply Co.

Wipers—Tubing—
Hercules Supply Co.
Oil Well Supply Co.

Wire Mesh—
American Rolling Mill Co.
American Steel & Wire Co.
Frick-Reid Supply Corp.
National Supply Co.
North American Car Corp.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Truscon Steel Co.
Wickwire Spencer Steel Co.

Wire—Wrought Iron—
Highland Iron & Steel Co.

Working Barrels—
Bradford Motor Works, Inc.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Corp.
C. M. Hester & Sons Co., Inc.
Hercules Supply Co.
Charles N. Hough Mfg. Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Larkin Packer Co.
Lucey Products Corp.
Marion Machine Foundry & Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Shaffer Tool Works

Wrenches—
Acme Fishing Tool Co.
Armstrong Bros. Tool Co.
Bridgeport Machine Co.
Columbus Forge & Iron Co.
Crane Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
LeBus Rotary Tool Works
MacClatchie Mfg. Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Trimont Manufacturing Co.
Walworth Co.
W-K-M Co.

Wrench—Backing Off—
Armstrong Bros. Tool Co.
Columbus Forge & Iron Co.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Key Boiler Equipment Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.

Wrench—Ball Swivel—
Bridgeport Machine Co.
Columbus Forge & Iron Co.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
Oil Well Supply Co.

Wrenches—Chain—
Armstrong Bros. Tool Co.
Bridgeport Machine Co.

Columbus Forge & Iron Co.
Continental Supply Co.
Crane Co.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Trimont Manufacturing Co.

Wrenches—Ratchet—
Bridgeport Machine Co.
Columbus Forge & Iron Co.
Continental Supply Co.
Dresser & Gorton, Inc.
S. R. Dresser Mfg. Co.
Hercules Supply Co.
International Supply Co.
Key Boiler Equipment Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co
Republic Supply Co.

Wrenches—Shop—
Armstrong Bros. Tool Co.
Columbus Forge & Iron Co.
Dresser & Gorton, Inc.
Frick-Reid Supply Corp.
Hercules Supply Co.
International Supply Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Trimont Manufacturing Co.

Wrenches—Sucker Rod—
Bridgeport Machine Co.
Columbus Forge & Iron Co.
Continental Supply Co.
Emsco Derrick & Equipment Co.
Frick-Reid Supply Corp.
Harrisburg Pipe & Pipe Bending
Hercules Supply Co.
International Supply Co.
Jarecki Manufacturing Co.
Lucey Products Corp.
Moser Manufacturing Co.
Murray Tool & Supply Co.
National Supply Co.
Norvell-Wilder Supply Co.
Oil Well Supply Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Texas Steel Co.

Wrist Pins—
Beaumont Iron Works Co.
Bridgeport Machine Co.
Continental Supply Co.
Frick-Reid Supply Corp.
C. M. Heeter Sons & Co., Inc.
Hercules Supply Co.
International Derrick & Equipment Co.
International Supply Co.
Jarecki Manufacturing Co.
Kirk-Morrow Iron Works, Inc.
Lucey Products Corp.
Lufkin Foundry & Machine Co
Marion Machine Foundry & Supply Co.
Lee C. Moore & Co., Inc.
Murray Tool & Supply Co.
National Supply Co.
Oil Field Engineering Corp.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Petroleum Equipment Co. of Texas, Inc.
Republic Supply Co.
Vickers Machine Co.

Z

Zinc Oxide—
Eagle-Picher Lead Co.
General Paint Corp.

ADDITIONAL COPIES OF THIS DIRECTORY » » »

will be furnished our readers gratis—Just state your requirements in a letter, or send us the names and addresses of those to whom you wish us to send the Directory.

MAIL REQUEST TODAY

This is just another evidence of our constant desire to be of helpful service to our readers, and advertisers.

The OIL and GAS JOURNAL

TULSA, OKLAHOMA

WHERE YOU CAN BUY IT

PART 2

MANUFACTURERS AND SALES OUTLETS

A

Acme Fishing Tool Co., Parkersburg, W. Va.
Distributors:
Acme Rental Tool Co., Graham, Tex.; Acme Tool Co., Breckenridge, Tex.; Acme Tool Co., Albany, Tex.; Acme Tool Co., McCamey, Tex.; Acme Tool Co., Pyote, Tex.; Acme Tool Co., Brownwood, Tex.; Gibson Machine & Tool Co., Borger, Tex.; Great Northern Tool & Supply Co., Billings, Mont.; Great Northern Tool & Supply Co., Kevin, Mont.; Great Northern Tool & Supply Co., Casper, Wyo.; Great Northern Tool & Supply Co., Cody, Wyo.; Logan Foundry & Machine Co., Logan, Ohio; Zanesville Tool & Supply Co., Zanesville, Ohio; Magner Supply Co., Muskegon, Mich.; McJunkin Supply Co., Charleston, W. Va.; Lloyd-Smith Co., Bradford, Pa.; Elms Brothers & Co., Waynesburg, Pa. All Frick-Reid Supply Corp. stores east of Mississippi River.
Export Office:
Acme Well Supply Co., Inc., 136 Liberty St., New York, N. Y.

Air Preheater Corp., 121 S. Main St., Wellsville, N. Y.
Branch:
New York, N. Y.
Distributors:
George S. Seltzer, 185 Devonshire St., Boston, Mass.; Abrahamson Corp., 104 Capen Blvd., Buffalo, N. Y.; T. C. Heyward, 1408 Independence Bldg., Charlotte, N. C.; D. H. Skeen & Co., 1 N. LaSalle St., Chicago, Ill.; Lathrop-Trotter Co., Union Trust Bldg., Cincinnati, Ohio; Stephan Co., 7016 Euclid Ave., Cleveland, Ohio; Mountain States Machinery Co., 538 U. S. National Bank Bldg., Denver, Colo.; James E. Degan Co., 2130-2150 Franklin St., Detroit, Mich.; Maintenance Engineering Corp., 1400 Conti St., Houston, Tex.; Hughes Machinery Co., Manufacturers Exchange Bldg., Kansas City, Mo.; Sutor & Co., 2008 E. Slauson Ave., Los Angeles, Calif.; Kent Engineering Co., 732 Builders Exchange Bldg., Minneapolis, Minn.; Engineering Sales Co., Inc., 425 S. Peters St., New Orleans, La.; Air Preheater Corp., 40 East Thirty-fourth St., New York, N. Y.; Edwin Smiley Co., Bulletin Bldg., Philadelphia, Pa.; James T. Castle, 424 First Ave., Pittsburgh, Pa.; Arthur T. Hunter, 20-A & 20-B Railway Exchange Bldg., St. Louis, Mo.; R. E. Chase & Co., 616 Tacoma Bldg., Tacoma, Wash.; Honolulu Iron Works Co., 165 Broadway, New York, N. Y. (West Indies, Hawaii and part of Mexico.)
Export Offices:
Aktiebolaget Svenska Maskinverken, Sodertalje, Sweden; Howden-Ljungstrom Preheaters (Land) Ltd., Caxton House, Westminster, London, S. W. 1, England; Luftvorwarmer G. m. b. H., Tauentsienstr 7, Berlin W. 50, Germany; Ste Francaise des Constructions Babcock & Wilcox, 48, Rue la Boetie, Paris (8:e), France; Lammers & Maase, Ltd., 1075 Beaver Hall Hill, Montreal, Canada; Gadelius & Co., Ltd., 25 Birger Jarlsgatan, Stockholm (Japan).

Ajax Iron Works, 26 W. Washington St., Corry, Pa.
Distributors:
The National Supply Co., Toledo, Ohio; all branches.
Export Offices:
National Supply Corp., 120 Broadway, New York, N. Y.; National Supply Corp., River Plate House, South Place and Finsbury Circus, London, E. C. 2, England; National Supply Corp., Bulevardul Ferdinand, Baviera Campinei, Ploesti, Rumania; National Supply Corp., c/o W. J. Campbell, Apartado 239, Maracaibo, Venezuela.

Alco Products, Inc., 230 E. Forty-second St., New York, N. Y.
Branches:
Tulsa, Okla.; Houston, Tex.; Cleveland, Ohio; Chicago, Ill.

Alco Tool Co., Ltd., Box "A," Compton, Calif.
Branches:
Houston, Tex.; Oklahoma City, Okla.; Bakersfield, Calif.; Ventura, Calif.

Allegheny Steel Co., Brackenridge, Pa.
Branches:
New York, N. Y.; Buffalo, N. Y.; Cleveland, Ohio; Detroit, Mich.; Chicago, Ill.; Milwaukee, Wis.; St. Louis, Mo.; Los Angeles, Calif.
Distributors:
Joseph T. Ryerson & Son, Inc., Sixteenth and Rockwell Sts., Chicago, Ill.; Fifty-second St. and Grays Ave., Philadelphia, Pa.; 203 Westside Ave., Jersey City, N. J.; Bailey Ave. and Stanley St., Buffalo, N. Y.; Third, Binney and Munroe Sts., Cambridge, Mass.; 2208 N. Second St., St. Louis, Mo.; 1600 E. Euclid Ave., Detroit, Mich.; Front and Freeman Sts., Cincinnati, Ohio; East Fifty-third St. and Lakeside Ave., Cleveland, Ohio.
Export Office:
Allegheny Steel Co., 501 Fifth Ave., New York, N. Y.

Allen Corp., 1040 14th Ave., Detroit, Mich.
Distributors:
Principal cities of North America.

Allen-Oliver Co., 11320 S. Alameda St., Los Angeles, California.
Distributor:
Oilfield Equipment Co., 30 Church St., New York, N. Y.
Export Office:
Oilfield Equipment Co., 30 Church St., New York, N. Y.

Allis-Chalmers Mfg. Co. Milwaukee, Wisconsin.
Branches:
Atlanta, Ga.; Baltimore, Md.; Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Charlotte, N. C.; Chattanooga, Tenn.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; Duluth, Minn.; El Paso, Tex.; Grand Rapids, Mich.; Houston, Tex.; Indianapolis, Ind.; Jackson, Mich.; Kansas City, Mo.; Los Angeles, Calif.; Milwaukee, Wis.; Minneapolis, Minn.; New Haven, Conn.; New Orleans, La.; New York, N. Y.; Philadelphia, Pa.; Phoenix, Ariz.; Pittsburgh, Pa.; Portland, Ore.; Richmond, Va.; St. Louis, Mo.; Salt Lake City, Utah; San Antonio, Tex.; San Francisco, Calif.; Seattle, Wash; Tampa, Fla.; Toledo, Ohio; Tulsa, Okla.; Wilkes-Barre, Pa.
Export Offices:
Paris, France, Allis-Chalmers (France) 3 Rue Taitbout; Lima, Peru, Banco Edif. Italia, Casilla 2333; London, England, 73a Salisbury House, London Wall E. C 2; Oruro, Bolivia, Esq. Sucre y Linares, Casilla 214; Santiago, Chile, Sociedad Manufacturera Allis-Chalmers, Edificio Mutual de la Armada, Casilla 48-D. Canadian Allis-Chalmers, Ltd., Toronto, Ontario; American Steel Export Co., 390 Madison Ave., New York, N. Y.

Louis Allis Co., 427 E. Stewart St., Milwaukee, Wis.
Branches:
Buffalo, N. Y.; Cincinnati, Ohio; Chicago, Ill.; Cleveland, Ohio; Minneapolis, Minn.; New York, N. Y.; Syracuse, N. Y.; Pittsburgh, Pa.
Distributors:
Jones Machinery Co., Inc., P. O. Box 1093, Atlanta, Ga.; New England Appliance Co., 514 Atlantic Ave., Boston, Mass.; F. L. Reynolds, 41-43 Grandville, S. W., Grand Rapids, Mich.; F. L. Bunker, P. O. Box 192, Charlotte, N. C.; J. D. Brance, 1024 Post Dispatch Bldg., Houston, Tex.; A. R. Thomas, 441 Santa Fe Ave., Los Angeles, Calif.; A. J. Reed, 2401 Chestnut St., Philadelphia, Pa.; Nadon Sales & Engineering Corp., 7 Front St., San Francisco, Calif.; C. R. Reynolds, 1317 N. Thirteenth St., Toledo, Ohio; A. C. H. Orpen, Federal Bldg., 65 Richmond St., West, Toronto, Canada; Electric Motor Co., 215B E. Archer St., Tulsa, Okla.
Export Offices:
E. H. Bentz, Western Engineering Co., 704 Broder Bldg., Regina, Saskatchewan, Canada; Western Engineering Co., 791 Erin St., Winnipeg, Canada.

Allsteel Products Mfg. Co., 801 S. Wichita St., Wichita, Kan.
Distributors:
Products available through all Caterpillar Tractor dealers.
Export Offices:
Products available through all Caterpillar Tractor dealers in all foreign countries.

Aluminum Co. of America, 2400 Oliver Bldg., Pittsburgh, Pa.
Branches:
Albany, N. Y.; Atlanta, Ga.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Detroit, Mich.; Fairfield, Conn.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Calif.; Milwaukee, Wis.; Minneapolis, Minn.; Newark, N. J.; New York, N. Y.; Philadelphia, Pa.; St. Louis, Mo.; San Francisco, Calif.; Toledo, Ohio; Washington, D. C.

American Askania Corp., 622 Marine Bank Bldg., Houston, Tex.

American Cable Co., New York Central Bldg., 230 Park Ave., New York, N. Y.
Branches:
Emlenton, Pa.; Tulsa, Okla.; San Francisco, Calif.; Chicago, Ill.; Detroit, Mich.; Philadelphia, Pa; Pittsburgh, Pa.
Distributors:
New Martinsville Supply Co., New Martinsville, W. Va.; Lloyd Smith Co., Bradford, Pa.; Slicker Pipe, Tool & Supply Co., Knox, Pa.; Mitchell & Graham, Emlenton, Pa.; Masseth, Packer & Machine Co., Butler, Pa.; Lawrenceville Machine Co., Lawrenceville, Ill; Atlas Supply Co., Tulsa, Okla., Muskogee, Okla.; Farley Machine Works Co., Arkansas City, Kans.; Norvell-Wilder Supply Co., Beaumont, Tex., Houston, Tex.; Pelican Well Tool & Supply Co., Shreveport, La.; Colony Corp., Rock Springs, Wyo.; American Cable Co., Inc., San Francisco, Calif.; W. B. Cornish, 3924 Baker Ave., Bell, Calif.; Alco Oil Tool Co., Compton, Calif.

American Cast Iron Pipe Co., P.O. Box 2603, Birmingham, Ala.
Branches:
Chicago, Ill.; Kansas City, Mo.; Dallas, Tex.; Los Angeles, Calif.; San Francisco, Calif.; Seattle, Wash.; Minneapolis, Minn.; Detroit, Mich.; Cleveland, Ohio.
Export Office:
New York, N. Y.

American Chain Co., Inc., Bridgeport, Conn.
Branches:
Pittsburgh, Pa.; Chicago, Ill.; San Francisco, Calif.

American Hammered Piston Ring Co., Baltimore, Md.
Branches:
Chicago, Ill.; San Francisco, Calif.; Atlanta, Ga.
Distributors:
Nolan Sales Corp., 827 E. First St., Tulsa, Okla., and 101 First St., Seminole, Okla.; B. A. Guthe, 501 Pico St., Long Beach, Calif.; Jon R. Long, 800 W. Rio Grande Ave., Fort Worth, Tex.; W. P. Cunningham, Houston, Tex.
Export Office:
P. F. Bailiet, 461 Eighth Ave., New York, N. Y.

American Iron and Machine Works Co., 518 N. Indiana, Oklahoma City, Okla.
Branches:
Seminole, Okla.; Maud, Okla.; Oklahoma City, Okla.
Distributors:
Oil Well Supply Co., Oil City, Pa.; Continental Supply Co., St. Louis, Mo.; Bridgeport Machine Co., Wichita, Kans.; International Supply Co., Tulsa, Okla.; Republic Supply Co., Houston, Tex.; National Supply Companies, Toledo, Ohio; Frick-Reid Supply Corp., Pittsburgh, Pa.; Lucey Products Corp., Tulsa, Okla.
Export Offices:
Lucey Products Corp., New York, N. Y.; Oil Well Supply Co., New York, N. Y.; National Supply Companies, New York, N. Y.; Continental Supply Co., New York, N. Y.

American-LaFrance and Foamite Corp., 100 E. LaFrance St., Elmira, Elmira, N. Y.
Branches:
Atlanta, Ga.; Boston, Mass.; Chicago, Ill.; Cleveland, Ohio; Denver, Colo.; Detroit, Mich.; Houston, Tex.; Kansas City, Mo.; Long Island City, N. Y.; Los Angeles, Calif.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; Portland, Ore.; San Francisco, Calif.; Seattle, Wash.
Distributors:
Representatives in all principal cities.
Export Offices:
American-LaFrance and Foamite Corp., 250 W. 57th St., New York, N. Y.; LaFrance Fire Engine & Foamite, Ltd., 195 Weston Road, Toronto, Ontario, Canada; 600 Standard Bank Bldg., Vancouver, British Columbia; 128 Portage Ave. East, Winnipeg, Manitoba.; 1012 Mayor Bldg., Montreal, Quebec, Canada; Foamite Firefoam, Ltd., Gt. Marlborough, St. Regent St., London, W. I., England. Dealers located in principal cities in foreign countries.

American Radiator Co., 816 S. Michigan Ave., Chicago, Ill.
Branches:
New York, N. Y.; Tulsa, Okla.; Los Angeles, Calif.; San Francisco, Calif.
Distributors:
National Supply Companies (all branches).

American Rolling Mill Co., 703 Curtis St., Middletown, Ohio.
Branches:
Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Detroit, Mich.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; San Francisco, Calif.; Tulsa, Okla.; Houston, Tex.
Export Offices:
Armco International Corp., Middletown, Ohio; branch offices: Rio de Janeiro, Brazil; Buenos Aires, Argentina; Havana, Cuba; Santurce, Porto Rico; Cologne, Germany; Tokyo, Japan; Melbourne, Australia; Calcutta, India; London, England; Paris, France; New York, N. Y.; Sao Paulo, Brazil; also representatives and agents in other principal cities of the world.

American Sheet & Tin Plate Co., Frick Building, Pittsburgh, Pa.
District Sales Offices:
Cincinnati, Ohio; Denver, Colo.; Detroit, Mich.; New Orleans, La.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.
Distributors:
Pacific Coast — Columbia Steel Co., San Francisco, Calif.; Los Angeles, Calif.; Phoenix, Ariz.; Salt Lake City, Utah; Portland, Ore.; Seattle, Wash.
Export Offices:
Columbia Steel Company, Russ Building, San Francisco, Calif.; United States Steel Products Co., 30 Church St., New York, N. Y.

American Stainless Steel Co., 808 Commonwealth Bldg., Pittsburgh, Pa.
Licensed American Manufacturers:
Allegheny Steel Co., Bethlehem Steel Co., Carpenter Steel Co., Colonial Steel Co., Columbia Tool Steel Co., Crucible Steel Co. of America, Henry Disston & Sons, Duraloy Co., Firth-Stirling Steel Co., Halcomb Steel Co., Heppenstall Co., Jessop Steel Co., Latrobe Electric Steel Co., Ludlum Steel Co., Midvale Co., Republic Steel Corp., Simonds Saw & Steel Co., Union Electric Steel Corp., Universal Steel Co., Vanadium-Alloys Steel Co., Vulcan Crucible Steel Co., Brighton Electric Steel Casting Co., Calorizing Co., Chapman Valve Mfg. Co., Chrome Alloy Products, Inc., Cleveland Alloys Co., Duraloy Co., Empire Steel Casting Co., Hartford Electric Steel Corp., Lebanon Steel Foundry, Michiana Products Corp., Millbury Steel Foundry Co., Wm. J. Sweet Foundry Co., Union Spring & Mfg. Co., Wehr Steel Co.

American Steel & Wire Co., 208 S. LaSalle St., Chicago, Ill.
Branches:
New York City, Cleveland, Boston, Atlanta, Pittsburgh, Worcester, Baltimore, Birmingham, Dallas, Tulsa, Denver, Salt Lake City, and all principal cities.
Distributors:
Stocks carried throughout all of the oil fields.
Export Offices:
U. S. Steel Products Co., 30 Church St., New York.

American Steam Pump Co., Battle Creek, Mich.
Branches:
New York, N. Y.; Chicago, Ill.
Distributors:
May Machinery Co., Second National Bank Building, Houston, Tex.; Reeves & Skinner Machinery Co., 2211 Olive St., St. Louis, Mo.; Woodward-Wight Co., Howard Ave., New Orleans, La.; Marshall Supply Co., 102 W. First St., Tulsa, Okla.; Buahnell Machinery Co., Suite 1501-02 Grant Bldg., Pittsburgh, Pa.; Hendrie & Bolthoff Mfg. & Supply Co., 1635 Seventeenth St., Denver, Colo.
Export Offices:
G. E. Dougall, San Martin 195, Buenos Aires, Argentina; American Steel Export Co. Asia, Ltd., 280 Castlereagh St., Sydney, Australia; Ben Hakker, President Steijnstraat 18, Amsterdam, Holland; Albert Liebermann, Gelea Calarasilor No. 49, Bucharest, Rumania; Alfred Palliser, 150 Calle Correo, Lima, Peru; Paul E. Sammann & Co. of Japan, Gocho Bldg. No. 25, Nakanoshima 2 Chome, Kitaku, Osaka, Japan; R. Torres Padilla, Apartado 2701, Mexico City, Mexico; V. Weltscheff, Apartado 1659, Bogota, Colombia; Jean DeLettre, Thirteenth Ave. Malokoff, Paris, France.

American Steel Works, 1211 West 27th St., Kansas City, Mo.
Distributors:
O. B. Avery Machinery Co., St. Louis, Mo.; General Machinery Co., Spokane, Wash.; General Paint Corp., Tulsa, Okla., Houston, Tex.; Thorman W. Rosholt Co., Minneapolis, Minn.; Southwestern Tractor & Equipment Co., El Paso, Tex.; Resistcor Engineering Corp., Tulsa, Okla. (all branches); Wailes Dove-Hermiston Corp., Tulsa, Okla.; Houston, Tex.; J. W. Bartholow Co., Dallas, Tex.; Nixon-Hasselle Co., Chattanooga, Tenn.; G. C. Phillips Tractor Co., Birmingham, Ala.; Burritt & Co., Chicago, Ill.; Kansas City, Mo.; McEverlast, Inc., Houston, Tex., Chicago, Ill.; Carter Waters Corp., Kansas City, Mo., and Oklahoma City, Okla.

American Tank & Equipment Corp. Box 1045, Oklahoma City, Okla.
Branches:
Subsidiary of Black, Sivalls & Bryson, Inc., Bartlesville, Okla. See Black, Sivalls & Bryson, Inc., for Branch Offices.
Export Office:
R. R. Weidman, Sales Representative, Maracaibo, Venezuela.

American Well Works, Aurora, Ill.
Branches:
Chicago, Ill.; New York, N. Y.; Los Angeles, Calif.
Distributors:
C. S. Carter, 711 Thompson Bldg., Tulsa, Okla.; C. O. McLean, 4601 Trowbridge St., El Paso, Tex.; M. K. Griggs, 440 West Bldg., Houston, Tex.
Export Office:
American Well Works, Aurora, Ill.

Anchor Post Fence Co., Eastern Ave. and Kane St., Baltimore, Md.
Branches:
Cleveland, Ohio; Cambridge Mass.; Albany, N. Y.; New York.

N. Y.; Newark, N. J.; Detroit, Mich.; Cincinnati, Ohio; Pittsburgh, Pa.; Philadelphia, Pa.; Hartford, Conn.; Houston, Tex.; San Francisco, Calif.; Charlotte, N. C.; Mineola, Long Island, N. Y.; Buffalo, N. Y.

B. K. Appleman,
Corner Park and College Sts.,
Beaumont, Tex.
Distributors:
Speed & Service Iron Works, Houston, Tex.; Oil Well Supply Co.; Continental Supply Co.; Frick-Reid Supply Corp.; Wilson Supply Co.; T. T. Word Supply Co.; Ged Iron Works; Beaumont Iron Works; Gulf Coast Machine & Supply Co.; National Supply Co.; Hercules Supply Co.; Traylor Machine Works.; San Antonio Machine & Supply Co. (all branches).
Export Office:
Beaumont Iron Works, Beaumont, Tex.

Paul Arbon & Co.,
N. Rockford and Frisco Tracks,
Box 111, Tulsa, Okla.
Export Office:
John H. Hopwood, 65 Mount St., London, W. 1, England.

Armstrong Brothers Tool Co.,
317-357 N. Francisco Ave.,
Chicago, Ill.
Branch:
Fort Worth, Tex..
Export Office:
Armstrong Brothers Tool Co., Ltd., 35 Upper Thames St., London, England.

Armstrong Machine Works,
368 Maple St.,
Three Rivers, Mich.
Distributors:
Advance Engineering Co., 168 Washington St., New York, N. Y.; George B. Allan & Co., 905-11 Main St., Dallas, Tex. (all branches); Barrett-Cariste Co., 108-12 North Clinton St., Chicago, Ill.; Brogan & Co., 910 Race St., Philadelphia, Pa.; Chatard & Norris, 218 Water St., Baltimore, Md.; Coplents Equipment Co., 1119 Peach St., Erie, Pa.; Coon-De Visser Co., 2051 W. Lafayette Blvd., Detroit, Mich.; Files Steam Specialty Co., 261 Franklin St., Boston, Mass.; Hendrie & Bolthoff Mfg. & Supply Co., 1635 Seventeenth St., Denver, Colo.; Hughes Machinery Co., 515 Mfrs. Exchange Bldg., Kansas City, Mo.; George Keller, 328 Exchange Place, New Orleans, La.; O'Brien Equipment Co., 2726 Locust Blvd., St. Louis, Mo.; Refrigerating & Power Specialties Co., 768 S. Embarcado, San Francisco, Calif.; Guy L. Warden, 114 W. Seventeenth St., Los Angeles, Calif.
Export Offices:
Engineering Equipment, Ltd., 1072 Beaver Hall Hill, Montreal, Quebec, Canada; Arthur S. Leitch Co., Ltd., 1123 Bay St., Toronto 5, Ontario, Canada.

Athey Truss Wheel Co.,
136 N. Wells St., Chicago, Ill.
Distributors:
Sold by Caterpillar Tractor dealers.
Export Office:
Baldwin Locomotive Works, Philadelphia, Pa.

Axelson Mfg. Co., Ltd.,
P. O. Box 337,
Los Angeles, Calif.
Branches:
Bakersfield, Calif.; Santa Fe Springs, Calif.; Bradford, Pa.; St. Louis, Mo.; Casper, Wyo.; Taft, Calif.; Huntington Beach, Calif.; Torrance, Calif.; Long Beach, Calif.; Tulsa, Okla.; New York, N. Y.
Distributors:
Frick-Reid Supply Corp. (all branches); Ged Iron Works, Vinton, La.; Great Northern Tool & Supply Co. (all branches); Hercules Supply Co., Refugio, Tex.; Hickey Pipe & Supply Co., Coalinga, Calif.; Lawrenceville Machine Co., Lawrenceville, Ill.; Mirando Lumber Co., Mirando City, Tex.; National Supply Co. of California, Orcutt, Calif.; Producers Supply & Tool Co., Olney and Graham, Tex.; Republic Supply Co. of California (all branches).
Export Offices:
Axelson Mfg. Co., Ltd., Inc., 1515 Hudson Terminal Bldg., New York, N. Y.; "Cosmos" Societate In Nume Colectiv Birou Technic, Str. Doamnei (Fosta Paris) 23-25, Bucharesti, Rumania; Oil Well Engineering Co., Ltd., River Plate House, Finsbury Circus and South Place, London, E. C. 2, England; C. Tennant Sons & Co., Ltd., San Fernando, Trinidad, British West Indies; Leopoldo Sol & Cia, Calle Bartolome Mitre 1178, Buenos Aires, Argentina.

Ayer & Lord Tie Co.,
Railway Exchange Bldg.,
Chicago, Ill.
Branches:
Carbondale, Ill.; Grenada, Miss.; North Little Rock, Ark.; Louisville, Ky.; Montgomery, Ala.

B

Baash-Ross Tool Co.,
5512 S. Boyle Ave.,
Los Angeles, Calif.
Branches:
Brea, Calif.; Long Beach, Calif.; Ventura, Calif.; Taft, Calif.; Oklahoma City, Okla.
Manufacturers Represented:
Jones & Laughlin Steel Corp. (tubular goods); Hazard Wire Rope Co. (wire rope products).
Export Office:
T. E. Ward, 30 Church St., New York, N. Y.

E. B. Badger & Sons Co.,
75 Pitts St., Boston, Mass.
Branches:
New York, N. Y.; Houston, Tex.; Tulsa, Okla.; Los Angeles, Calif.

Badgett Steam Lubricator Co.,
Fifteenth St. and Grand Ave.,
Chickasha, Okla.
Distributors:
National Supply Companies, Toledo, Ohio; Oil Well Supply Co., Tulsa, Okla.; Continental Supply Co., St. Louis, Mo.; Oil Well Supply Co., Oil City, Pa.; Republic Supply Co., Houston, Tex.; Peden Co., Houston, Tex.; Wilson Co., Houston, Tex.; Hercules Supply Co., Fort Worth, Tex.; Gulf Supply Co., Houston, Tex.; Atlas Supply Co., Oklahoma City, Okla.; Bovaird Supply Co., Tulsa, Okla.; International Supply Co., Tulsa, Okla.; Iverson Tool & Specialty Co., Oklahoma City, Okla.; Western Supply Co., Oklahoma City, Okla. These with their branches are our customers.

Baker Oil Tools, Inc.,
2951-91 E. Slauson Ave.,
Huntington Park, Calif.
Branches:
Houston, Tex.; Tulsa, Okla.
Distributors:
All Branches:
Bridgeport Machine Co., Continental Supply Co., Frick-Reid Supply Corp., International Supply Co., Jarecki Mfg. Co., National Supply Co., Oil Well Supply Co., Republic Supply Co. of Texas, Bovaird Supply Co., Decker Supply Co., Hercules Supply Co., Houston Oil Field Material Co., Lucey Products Corp., Mid-Continent Supply Co., Murray Tool & Supply Co., Pelican Well Tool & Supply Co., Petroleum Supply Co., T. T. Word Supply Co., Wilson Supply Co.
Export Office:
Baker Oil Tools, Inc., Room 736, 25 Broadway, New York, N. Y.
Foreign Representatives Only:
S. B. Schnitter, Apartado No. 84, Maracaibo, Venezuela, South America; R. W. Perry, Trinidad, British West Indies.

Baldwin-Duckworth Chain Corp.,
Baldwin Division,
Southbridge St., Worcester, Mass.
Branches:
Pittsburgh, Pa.; Chicago, Ill.
Distributors:
George J. Fix Co., 2507 Commerce St., Dallas, Tex.; T. T. Word Supply Co., Houston, and Beaumont, Tex.; Shreveport, and Lake Charles, La.; Grover C. Johnson, Wichita Falls, Pyote, and Big Spring, Tex.; International Supply Co., Tulsa, Okla.; J. W. Minder Co., 927-29 Santa Fe Ave., Los Angeles, Calif.; Petroleum Equipment Co., 2800 S. Alameda St., Los Angeles, Calif.; Adam-Hill Co., 244 Ninth St., San Francisco, Calif.
Export Office:
W. S. Fellows, 39 Cortland St., New York, N. Y.

Barber-Greene Co.,
West Park Ave., Aurora, Ill
Branches:
Cambridge, Mass.; New York, N. Y.; Utica, N. Y.; Philadelphia, Pa.; Buffalo, N. Y.; Pittsburgh, Pa.; Cleveland, Ohio; Columbus, Ohio; Detroit, Mich.; Chicago, Ill.; Cedar Rapids, Iowa; Kansas City, Mo.
Distributors:
Julian P. Benjamin, 2401 Main St., Jacksonville, Fla.; Brandeis Machinery & Supply Co., Brook and Warnock Sts., Louisville, Ky.; Browning-Ferris Machinery Co., 205 Exposition Ave., Dallas, Tex.; Browning-Ferris Machinery Co., 14-12 Ennis St., Houston, Tex.; Chadwick Machinery Co., 125 Blue Star St., San Antonio, Tex.; Chadwick Machinery Co., Twenty-fifth and Clybourn Sts., Milwaukee, Wis.; Clyde Co., Inc., 309 Magazine St., New Orleans, La.; C. M. Conant Co., 182-196 Broad St., Bangor, Me.; H. N. Dean, 148 Adams Ave., Scranton, Pa.; L. V. Fraley & Son, 513 Buder Bldg., St. Louis, Mo.; General Utilities Co., Box 361, Norfolk, Va.; Howard-Cooper Corp., E. Third St. and Hawthorne Ave., Portland, Ore.; Howard-Cooper Corp., Box 1073, Twin Falls, Idaho; Jenison Machinery Co., 50-58 Fremont St., San Francisco, Calif.; LaLance Equipment Co., Twenty-sixth and Guyan Sts., West Huntington, Va.; Llewellyn Machinery Corp., 1030 N. Miami Ave., Miami, Fla.; Lund & Co., 49 N. Second West., Salt Lake City, Utah; Joe Lyons Machinery Co., 112-120 N. Louisiana St., Little Rock, Ark.; W. T. MacDonald & Co., 301 Old Trails Bldg., Indianapolis, Ind.; W. B. McCauley, 15 W. Franklin St., Baltimore, Md.; Midland Implement Co., Billings, Mont.; New Mexico Road Machinery Co., P. O. Box 665, Albuquerque, N. Mex.; Nixon-Hasselle Co., Thirteenth and Carter Sts., Chattanooga, Tenn.; Parmenter & Andre, Box 192, Grand Rapids, Mich.; Sheehan & Co., 1615 Bassett Ave., El Paso, Tex.; Shreveport Machinery Sales Co., 936 Louisiana Ave., Shreveport, La.; Smith Booth Usher Co., 1910 Santa Fe Ave., Los Angeles, Calif.; Standard Machinery & Equipment Co., 118-124 Bobo St., Spartanburg, S. C.; John D. Turner Co., 921-922 Pioneer Bldg., Birmingham, Ala.; Wilson Machinery Co., 1936 Market St., Denver, Colo.; Yancey Brothers Tractor Co., 109-115 Booker Ave., Albany, Ga.; William H. Ziegler Co., Inc., 619 Washington Ave. S., Minneapolis, Minn., 710 Providence Bldg., Duluth, Minn.; Yancey Brothers, Inc., 634 Whitehall St., Atlanta, Ga.
Export Offices:
William Adams & Co., Ltd. 175 Clarence St., Sydney, Australia; William Adams & Co., Ltd., 521 Collins St., Melbourne, Victoria, Australia; William Adams & Co., Ltd., Edward and Mary Sts., Brisbane, Queensland, Australia; William Adams & Co., Ltd., 33 King St., Perth, western Australia; William Adams & Co., Ltd., Waymouth and Morphette Sts., Adelaide, Australia; Agencias Atlas, S. S., Apartado No. 1037, Tampico, Mexico; Allied Machinery Co., 19 Rue de Rocroy, Paris, France; Allied Machinery Co. of America, 90 Wall St., New York, N. Y.; Allied Machinery Co., Consejo de Ciento 318, Barcelona, Spain; Allied Machinery Co., Loewenstrasse 16, Zurich, Switzerland; Allied Machinery Co., 52 Rue de La Montagne, Brussels, Belgium; Anahuac Machinery Co., Edificio Cook, Mexico, D. F., Mexico; Andrews & Beaven, Ltd., P. O. Box 138, Christchurch, New Zealand; Barlow's Johannesburg (Prop.) Ltd., 92/108 Cullinan Bldg., Simmonds St., Johannesburg, South Africa; Barlow's Johannesburg (Prop.) Ltd., N'Dola, South Africa; Thomas Barlow & Sons, Ltd., Electric House, 365 Smith St., Durban, Natal, South Africa; Baldwin Locomotive Works, 500 N. Broad St., Philadelphia, Pa.; Baldwin Locomotive Works, 5 Dalhousie Square, P. O. Box 2080, Calcutta, India; Booker Brothers, McConnell & Co., Georgetown, Demerara, British Guiana, South Africa; Cooper & Cooper, 65 Ridgeway St., Wananui, New Zealand; Cory-Wright & Salmon, G. P. O. Box 1230, Featherstone St., Dominion Farmers' Institute, Wellington, New Zealand; Cory-Wright & Salmon, P. O. Box 1650, Mercantile Chambers, Auckland, New Zealand; Cossens & Blackie, Ltd., Manor St., Duneden, New Zealand; Messrs. Crocker & Co., Calle Uruguay 1010, Montevideo, Uruguay; Dr. Fritz Daumeniang, Knesebeckstrasse 29, Charlottenburg 2, Berlin, Germany; Mr. T. Dudley Drew-Bear, Apartado No. 472, Caracas, Venezuela; Eadie Brothers, Tay St., Invercargill, New Zealand; General Supply Co., Ave. Isabel La Catolica No. 51 Bix, Mexico, D. F., Mexico; Grace Brothers & Co., Fort and Queen Sts., Honolulu, Hawaii; Mr. Anjel Guarello (Gallo), Casilla 2809, Santiago, Chile; Horne Co., Ltd., c/o Ataka & Co., Ltd., Imbashi 5-Chome, Osaka, Japan; Amerian Horne Co., 117 Liberty St., New York, N. Y.); Langdon & Co., E. W., 62 Kiangse Road, Shanghai, China; McKenzie, Ltd., St. Helen's Court, Currimbhoy Road, Ballard Estate, Bombay, India; Milan Machinery Co., Ave. del Brazil 7, Havana, Cuba; Mussens, Ltd., 41 Phillips Place Bldg., Montreal, Quebec, Canada; Mussens, Ltd., 4 Richmond St. E., Toronto, Ontario, Canada; Mussens, Ltd., 611-612 Credit Foncier Bldg., Vancouver, British Columbia, Canada; Mussens, Ltd., York and Smith Sts., Winnipeg, Manitoba, Canada; R. H. Neal & Co., Plant House, Longfield Ave., Ealing, London, W. 5, England; S. Oppenheimer & Co., Box 83, Rangoon, Burma, India; Parrish & Co., Apartado 6, Apartado Aero No. 102, Barranquilla, Colombia, South America; Parrish & Co., Edificio Banco de Colombia, Bogota, Colombia, South America; Pedro, Martinto & Co., Lima, Peru, South America; Philippine Engineering Co., P. O. Box 436, 936, Calle Raon, Manila, Philippine Islands; Mr. Bernardo Prichard, Cangallo 439, Buenos Aires, Argentina; Simes, Darby, Ltd., 5 Malacca St., Singapore, Straits Settlements; Taves & Co., Oscar, Rua do Sao Pedro 92, Rio de Janeiro, Brazil; Technisch Bureau, R. Neil Williams, Naripanweg 62, Bandoeng, Java; Tulio Ospina y Cia., Medellin, Colombia, South America; Stabilimenti Riuniti, (Allied Machinery Co.) Inc., Carabelli & Marchi, 3 Via Carlo Porta, Milano, (122), Italy.

Barnsdall Refineries, Inc.,
Petroleum Bldg., Tulsa, Okla.
Branches:
Chicago, Ill.; St. Louis, Mo.; Kansas City, Mo.
Export Office:
Max W. Boley, Buenos Aires, South America.

Barrett Co.,
40 Rector St., New York, N. Y.

Bartlesville Supply Co.,
3400-3428 Maury Ave.,
St. Louis, Mo.
Branches:
Tulsa, Okla.; Oklahoma City, Okla., Amarillo, Tex.
Distributors:
Sold by all leading supply companies.
Export Office:
150 Broadway, New York, N. Y.

Bartlett Hayward Co.,
200 Scott St., Baltimore, Md.
Branches:
Bartlett Hayward Co., 20 N. Wacker Drive Bldg., Chicago, Ill.; Bartlett Hayward Co., Lincoln Bldg., 60 E. Forty-second St., New York, N. Y.; Bartlett Hayward Co., Koppers Bldg., Pittsburgh, Pa.
Distributors:
E. H. Bollenbacher, 489 Stephens St., Atlanta, Ga.; Ebbert & Kirkman Co., Inc., 321 Brown Marx Bldg., Birmingham, Ala.; H. W. Calder, 10 High St., Boston, Mass.; J. Leo Scanlon Co., 487 Ellicott Square Bldg., Buffalo, N. Y.; Fraser & Chalmers of Canada, Ltd., Canada Cement Bldg., Montreal, Quebec; Lindrooth, Shubart & Co., Boston Bldg., Denver, Colo.; A. J. Bieckl, c/o A. L. Searless, 402 Donovan Bldg., Detroit, Mich.; A. L. Searless, 637 Michigan Trust Bldg., Grand Rapids, Mich.; M. N. Dannenbaum, Bankers Mortgage Bldg., Houston, Tex.; Thomas Machinery Co., 912 E. Third St., Los Angeles, Calif.; F. S. Van Bergen, 602 Builders Exchange, Minneapolis, Minn.; J. H. Nicholson Sales Co., 6315 N. Thirty-third St., Omaha, Neb.; F. W. Stevens, 326 Pacific Bldg., Portland, Ore.; Oliver B. Lyman, Call Bldg., San Francisco, Calif.; J. M. Fuller O. K. Machine & Mfg. Co., 421 E. First St., Tulsa, Okla.; A. M. Brown, 4458 Washington Blvd., St. Louis, Mo.; J. J. Connor, 325 Cornwall Road, Cleveland, Ohio; C. S. Meixell, 73 Rochelle Ave., Wissahickon, Philadelphia, Pa.

Bart Products Co.,
Dewey Road, Bartlesville, Okla.

Benson & Henderson Pipe Line Construction Co.,
803 Herskowitz Bldg.,
Oklahoma City, Okla.

Beaumont Iron Works Co.,
1450 Crockett St.,
Beaumont, Tex.
Distributors:
Frick-Reid Supply Corp., all branches.

Bethlehem Steel Co.,
Bethlehem, Pa.
Branches:
Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Detroit, Mich.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.
Distributors:
Pacific Coast Steel Corp., Twentieth and Illinois Sts., San Francisco, Calif.; Pacific Finance Bldg., Los Angeles, Calif.; Twenty-eighth Ave. S.W., and W. Andover Sts., Seattle, Wash.; American Bank Bldg., Portland, Ore.; Schuman Bldg., Honolulu, Hawaii.
Export Offices:
Bethlehem Steel Export Corp., 25 Broadway, New York, N. Y.
Represented in:
Barranquilla, Colombia; Bogota, Colombia; Buenos Aires, Argentine; Caracas, Venezuela; Havana, Cuba; Maracaibo, Venezuela; Manila, Philippine Islands; Medellin, Colombia; Mexico, D. F., Mexico; Montreal, Quebec, Canada; Rio de Janeiro, Brazil; San Juan, Porto Rico; Santiago, Chile; Santo Domingo, Domiican Republic; Sao Paulo, Brazil; Tokyo, Japan; Toronto, Ontario, Canada; Vancouver, British Columbia, Canada; Sydney, Nova Scotia, Canada.

Bigelow-Liptak Corp.,
1304 Maccabees Bldg.,
Detroit, Mich.
Branches:
New York, N. Y.; Pittsburgh, Pa.; Chicago, Ill.; Houston, Tex.; Atlanta, Ga.
Distributors:
F. B. Lythgoe, 89 Broad St., Boston, Mass.; Abrahamson Corp., 104 Capen Blvd., Buffalo, N. Y.; Process Engineers, Perry Bldg., Philadelphia, Pa.; Henry P. Thompson, 404 Schmidt Bldg., Cincinnati, Ohio; R. L. Cornell, Station A, P. O. Box 3093, Orlando, Fla.; W. C. Christensen, P. O. Box 471, Jackson, Miss.; L. S. Garrett, 820 Guardian Bldg., Cleveland, Ohio; Fuel Economy Engineering Co., Fourth and Roberts Bldg., St. Paul, Minn.; Stearns-Roger Mfg. Co., 1718 California St., Denver, Colo.; American Stoker Co., Dooley Bldg., Salt Lake City, Utah; F. S. Bitgood, 529 Western Mutual Life Bldg., Los Angeles, Calif.; J. T. Thorpe & Son, 308 Traders Bldg., San Francisco, Calif.; F. W. Hay & Co., 2732 Cherry St., Kansas City, Mo.; E. J. Bartells Co., 1212 Sixth Ave. South, Seattle, Wash.; T. C. Heyward, Independence Bldg., Charlotte, N. C.; John W. Hankins, 3117 Carolina Ave., Richmond, Va.
Export Offices:
Liptak Furnace Arches, Ltd., 38 Victoria St., London, England; Mons. Ch. Viguerie, 3 Villa Montcalm, Paris, France; M. Jules Defay, 24 Ave. de Hippodrome, Brussels, Belgium; Stettiner Chamotte Fabrik, A/G, vormals Didier, Westfalische-strasse 90, Berlin, Germany; Austral Engineering Supply Co., Ltd., 490-492 Kent St., Sydney, Australia; Duncan Stratton & Co., 5 Bank St., Fort, Bombay, India; I. Kruger A/S, Jarmersgade 2 (Scandinavia) Copenhagen, Denmark; Reunert & Lenz, Ltd., Netherlands Bank Bldg., Johannesburg, South Africa; Pryce & Co., Peru 257 (Argentine and Uruguay), Buenos Aires, Argentine, South America; George E. Knight, Officials No. 12, Havana, Cuba; W. A. Ramsey, Ltd., Honolulu, Hawaii; Riley Engineering & Supply Co., Miranda and Schell Sts., Fairbank, Toronto, Canada.

Biggs Boiler Works Co.,
Bank, Kent and Williams Sts.,
Akron, Ohio.
Branches:
New York, N. Y.; Detroit, Mich.
Distributors:
Poe Co., 2842 W. Grand Blvd., Detroit, Mich.; Eichleman & Maher, 333 N. Michigan Ave., Chicago, Ill.

Bignall & Keeler Machine Works,
Edwardsville, Ill.

Binks Manufacturing Co.,
3114-40 Carroll Ave.,
Chicago, Ill.
Branches:
New York, N. Y.; Boston, Mass.; Philadelphia, Pa.; Atlanta, Ga.; Pittsburgh, Pa.; Detroit, Mich.; Cleveland, Ohio; Cincinnati, Ohio; Milwaukee, Wis.; San Francisco, Calif.; Los Angeles, Calif.; Seattle, Wash.; Tulsa, Okla.; Nashville, Tenn.; St. Louis, Mo.; New Orleans, La.
Export Office:
Overseas Motor Service Corp., 1775 Broadway, New York, N. Y

Blackor Co.,
13,007 S. Main St.,
Los Angeles, Calif.
Distributors:
Bailey-Becker Co., 410 Thompson Bldg., Tulsa, Okla.; Bettis Sales Co., 917 Merchants & Manufacturers Bldg., Houston, Tex.; W. S. Fellows, 39 Cortlandt St., New York, N. Y.
Export Office:
J. E. Treacy, Str. Golesti No. 9, Ploesti, Rumania.

Black, Sivalls & Bryson, Inc.,
120 S. Park Ave.,
Bartlesville, Okla.
Branches:
El Dorado, Ark.; Asher, Okla.; Bartlesville, Okla.; Blackwell, Okla.; Bristow, Okla.; Drumright, Okla.; Duncan, Okla.; Earlsboro, Okla.; Garber, Okla.; Hominy, Okla.; Oklahoma City, Okla.; Okmulgee, Okla.; Sasakwa, Okla.; Seminole, Okla.; Shidler, Okla.; Tulsa, Okla.; Augusta, Kans.; Eldorado, Kans.; Eureka, Kans.; Hillsboro, Kans.; Hutchinson, Kans.; Madison, Kans.; Russell, Kans.; Valley Center, Kans.; Wichita, Kans.; Winfield, Kans.; Amarillo, Tex.; Beeville, Tex.; Big Spring, Tex.; Borger, Tex.; Breckenridge, Tex.; Cross Plains, Tex.; Dayton, Tex.; Electra, Tex.; Fort Worth, Tex.; Houston, Tex.; McCamey, Tex.; Midland, Tex.; Pampa, Tex.; Pyote, Tex.; Ranger, Tex.; Wink, Tex.; Casper, Wyo.; Cody, Wyo.; Kansas City, Mo.; Artesia, N. Mex.; New Hobbs, N. Mex.; Conrad, Mont.; Kevin, Mont.
Export Office:
Black, Sivalls & Bryson, Inc., 120 S. Park Ave., Bartlesville, Okla. Foreign representatives in Okotoks, Alberta, Canada; Maracaibo, Venezuela, South America.

Black Wire Rope Co.,
Peoria, Ill.
Branch:
Tulsa, Okla.
Distributors:
Mid-Continent Supply Co. (all branches); Hillman-Kelly Co., Los Angeles, Calif.; Robinson-Stoves, Tulsa, Okla.; Albany Rope Specialty Co., Albany, Tex.

Bradford Motor Works,
Bradford, Pa.
Branch:
Tulsa, Okla.
Distributors:
Practically all jobbers and supply companies.
Export Office:
Oil Field Equipment Co., 30 Church St., New York, N. Y.

Brauer Machine & Supply Co.,
1201 E. Twenty-ninth St., South,
P. O. Drawer 1469,
Oklahoma City, Okla.
Branch:
Seminole, Okla.
Distributors:
Continental Supply Co. (all stores); National Supply Co. (all stores); Frick-Reid Supply Corp. (all stores); International Supply Co. (all stores); Bridgeport Machine Co. (all stores); Murray Tool & Supply Co. (all stores); Wilson Supply Co., Houston, Pettus and Barbers Hill, Tex.; Lucey Products Corp. (all stores); Hercules Supply Co., Hobbs, N. M., and Refugio and Pettus, Tex.; Republic Supply Co. (all stores); Specialty Sales Co., Shreveport, La.; Houston Oil Field Material Co., Houston, Tex.; Globe Oil Tool Co., Los Nietos, Calif. (California distributor).
Export Offices:
Acme Well Supply Co., Continental-Emsco Co., National Supply Corp., Lucey Products Corp., Oil Well Supply Co.

C. F. Braun & Co., Ltd.,
1200 S. Fremont St.,
Alhambra, Calif.
Branches:
Houston, Tex.; New York, N. Y.; Tulsa, Okla.

Brewster Co., Inc.,
Fannin and Strand Sts.,
Shreveport, La.
Branches:
Houston, Tex.; Oklahoma City, Okla.; Hugoton, Kans.
Distributors:
Continental Supply Co. (all stores); Iverson Tool Co., Oklahoma City, Okla.; Murray-Brooks Hardware Co., Lake Charles, La.; Wilson Supply Co., Houston, Tex.; Peden Co., Zwolle, La.; El Dorado Foundry & Machine Co., El Dorado, Ark.; Iverson Tool Co., Hobbs, N. M.
Export Offices:
All export orders handled direct from Shreveport, La.

Bridgeport Machine Co.,
Wichita, Kans.
Branches:
Eldorado, Kans.; Hugoton, Kans.; McPherson, Kans.; Russell, Kans.; Oklahoma City, Okla.; Seminole, Okla.; Maud, Okla.; Tulsa, Okla.; Breckenridge, Tex.; Pampa, Tex.; Odessa, Tex.; Hobbs, N. Mex.; Marietta, Ohio.
Distributors:
Allis-Chalmers Mfg. Co., American Iron & Machine Works, Baker Oil Tools, Inc., Baldwin Chain Mfg. Co., Bartlesville Supply Co., Burns Tool Co., Burt Corp., Butler Mfg. Co., Byron Jackson Co., California Talc Co., Cameron Iron Works, Chain Belt Co., Champion & Barber, A. P. Green Firebrick Co., D. & M. Mfg. Co., Guiberson Corp., C. M. Heeter Sons Co., Hughes Tool Co., Kohler Co., Larkin Packer Co., Link Belt Co., Lucey Products Corp., Martin-Decker Corp., Moon Mfg. Co., 3 M Products Co., New York Rubber Co., Patterson-Ballagh Corp., Pittsburgh Steel Corp., Regan Sales Corp., Reed Roller Bit Co., Spang & Co., Star Mfg. Co., Wall Rope Works, Watson Stillman Co., Wheeling Steel Corp., Williamsport Wire Rope Co., Wright Machine Co., W-K-M Co.
Export Office:
Lucey Products Corp., Room 3505, 233 Broadway, New York, N. Y.

Bristol Co., Waterbury, Conn.
Branches:
Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; Birmingham, Ala.; Chicago, Ill.; Detroit, Mich.; Akron, Ohio; Denver, Colo.; St. Louis, Mo.; San Francisco, Calif.; Los Angeles, Calif.
Export Offices:
Bristol Co., 114 Liberty St., New York, N. Y.

Broderick Co.,
Windsor St. at Big Four R. R.,
Muncie, Ind.
Distributors:
National Supply Companies, Toledo, Ohio (all branches).
Export Offices:
Export is handled by the National Supply Corp., 120 Broadway, New York, N. Y. Product is distributed through all foreign branches of the National Supply Corp.

Broderick & Bascom Rope Co.,
4203 N. Union Blvd.,
St. Louis, Mo.
Branches:
Seattle, Wash.; Houston, Tex.; New York, N. Y.; Portland, Ore.; Seattle, Wash.
Distributors:
Republic Supply Co., Houston, Tex. (all branches); Republic Supply Co. of California, Los Angeles, Calif. (all branches); Wilson Supply Co., Houston, Tex. (all branches); Star Drilling Machine Co., Chanute, Kans.; Star Drilling Machine Co., Akron, Ohio; McJunkin Supply Co., Charleston, W. Va. (all branches); D. F. Connolly Agency, Inc., Tulsa, Okla. (all branches); Murray-Brooks Supply Co., Lake Charles, La. (all branches); Bovaird & Co., Bradford, Pa.; Putman Supply Co., Putman, Tex. (all branches); Union Pipe & Supply Co., Owensboro, Ky.
Export Offices:
Exports handled from general offices, St. Louis, Mo., with shipment from New York warehouse and Seattle factory.

Brown Instrument Co.,
Wayne and Roberts Aves.,
Philadelphia, Pa.
Branches:
Newark, N. J.; Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Milwaukee, Wis.; Cincinnati, Ohio; Cleveland, Ohio; Detroit, Mich.; Houston, Tex.; Kansas City, Mo.; Los Angeles, Calif.; New York, N. Y.; Pittsburgh, Pa.; St. Louis, Mo.; San Francisco, Calif.; Tulsa, Okla.
Distributors:
Denver Fire Clay Co., 1742 Champa St., Denver, Colo.; 209 Mills Bldg., El Paso, Tex.; 157 W. Second St., South, Salt Lake City, Utah; 90 West St., New York, N. Y.; H. P. Rogers, 7 St. Paul St., Baltimore, Md.; Pfaff & Bathke, Pioneer Bldg., St. Paul, Minn.; W. H. Bisby, 524 First National Bank Bldg., Omaha, Nebr.; Hinkelman & Tyler Co., 320 E. Fourth St., Davenport, Iowa; Engineering Sales Co., 446 Ivanhoe Place, Milwaukee, Wis.; Paper Mill Equipment Co., American Bank Bldg., Portland, Ore.; Frederic A. Tayler, P. O. Box 1726, Richmond, Va.; Kent Engineering Co., 716-18 Builders Exchange, Minneapolis, Minn.
Export Offices:
White & Rae, 82 Pitt St., Sydney, Australia; Les Applications Electro Mecanique, 61 Rue De La Caverne, Gand, Belgium; Oscar Taves & Co., P. O. Box 840, Rio de Janeiro, Brazil (H. S. Henry & Son, Inc., 116 Broad St., New York, N. Y.); Lovick Johnson Co., Lloyds Bank Chambers, 125 Balham High Road, London, S. W. 12, England; W. R. Grace & Co., 7 Hanover Square, New York, N. Y.; J. G. Brown, care Hoffman & Wedekind Co., Mukden, Manchuria, China; Antiga & Co., P. O. Box 1052, Havana, Cuba; A. S. Lowener, Copenhagen, Denmark; Svenska Aktiebolaget Mono, Geibelstrebe 54, Hamburg, Germany; Aktiebolaget Magnus Holmquist, Halmstad, Sweden; Societe D'Applications Electriques Pour L'Industrie, 25 Ave. Ledru-Rollin, Paris, France; Industrie Electroofen G.M.B.H., Koln A. Rh, Hockhaus 15, Hansaring 97, Germany; Hollandsche Ingenieurs MY, Prinz Hendrikkade 181, Amsterdam, Holland; Balazs es Brody, Budapest, Hungary; Henry Coe & Clerici, Ramo Tecnico, Via Lanzone 31, Casella Postale 1642, Milan, Italy; Yamatake & Co., 40 Rector St., New York, N. Y.; Yamatake & Co., Yaesu Bldg., Maranouchi, Tokyo, Japan; Yamatake & Co., 14 Nichrome Hamadori, Dojima, Osaka, Japan; Armando Vaquie, Colima No. 224, Mexico City, Mexico; Paykel Brothers, Ltd., 7 Anzac Ave., Auckland, New Zealand; Paykel Brothers, Ltd., P. O. Box 871, Wellington, New Zealand; A. S. Lowener-Mohn, Kirkegaten 20, Oslo, Norway; Earnshaw Docks & Honolulu Iron Works, P. O. Box 282, Manila, Philippine Islands; Porto Rico Iron Works, San Juan, Porto Rico; Amtorg Trading Corp., 165 Broadway, New York, N. Y.; R. H. Harriss, 316 Consolidated Bldgs., third floor, Fox St., Johannesburg, South Africa; Compania Nacional de Electricidad, Plaza Cataluna 8, Barcelona, Spain; Compania Nacional de Electricidad, Apartado 702, Madrid, Spain; Aktiebolaget Malcus Holmquist, Halmstad, Sweden; Laurent Pagan, 16 Rue De Hesse, Geneva, Switzerland; Laurent Pagan, 3, Auf Der Mauer, Zurich 1, Switzerland; La Chapelle Engineering Equipment & Supplies Co., 339 St. Paul St., West, Montreal, Quebec, Canada.

Miles P. Brown Boiler Works,
1027 Chestnut St., Franklin, Pa.

Buckeye Traction Ditcher Co.,
Findlay, Ohio.
Branches:
Detroit, Mich.; Chicago, Ill.; Tulsa, Okla.; Dallas, Tex.

Buda Engine Service of Tulsa, Inc.,
521 W. Archer St., Tulsa, Okla.

Burford Oil Co.,
Pecos, Tex.
Branches:
Tulsa, Okla.; Minneapolis, Minn.

Charles A. Butler Mfg. Co.,
Okmulgee, Okla.
Distributors:
All leading supply companies.
Export Offices:
Continental-Emsco Co., Lucey Products Corp., National Supply Co.

Butler Mfg. Co.,
Thirteenth and Eastern,
Kansas City, Mo.
Branch:
Minneapolis, Minn.
Distributors:
Drane Tank Co., Tulsa, Okla.; Drane-Humphrey Co., San Angelo, Tex.; Gulf Coast Tank Co., Houston, Tex.; Keyes Butler Tank Co., Casper, Wyo.; Tom Moran, 613 Ricon-Brewster Bldg., Shreveport, La.
Export Offices:
Oil Well Supply Co., New York, N. Y. (Mexico, Venezuela, Rumania, Trinidad); National Supply Co., New York, N. Y. (Argentine Republic).

A. M. Byers Co.,
Clark Building, Pittsburgh, Pa.
Branches:
Atlanta, Ga.; Boston, Mass.; Chicago, Ill.; Houston, Tex.; New York, N. Y.; Pittsburgh, Pa.; Philadelphia, Pa.; San Francisco, Calif.
Distributors:
Oil Well Supply Co.: Arkansas, California, Colorado, Illinois, Kansas, Kentucky, Louisiana, Mexico, Montana, New York, Oklahoma, Pennsylvania, Texas, West Virginia, Wyoming; Jarecki Mfg. Co.: Kansas, Oklahoma, Texas; Norvel-Wilder Hardware Co.: Louisiana, Texas; International Supply Co.: Oklahoma.
Export Office:
A. M. Byers Co., New York, N. Y.

Byers Machine Co.,
Ravenna, Ohio.
Export Office:
J. Estes, 415 Lafayette St., New York, N. Y.

Byron Jackson Co.,
(Oil Tool Division)
2150 E. Slauson Ave.,
Los Angeles, Calif.
Branches:
Tulsa, Okla.; Oklahoma City, Okla.; Houston, Tex.; Fort Worth, Tex.; New York, N. Y.

Byron Jackson Co.,
(Pump Division)
Foot of Carlton St.,
Berkeley, Calif.
Branches:
Los Angeles, Calif.; New York, N. Y.; Bethlehem, Pa.; Tulsa, Okla.; Detroit, Mich.; Visilia, Calif.; Phoenix, Ariz.; Portland, Ore.
Distributors:
All major supply companies.
Export Offices:
Oil Well Engineering Co., 8-10 Bridge St., New York, N. Y.; Rose-Lloyd & Co., Ltd., 7 Union Court, Old Broad St., London E. C. 2, England; Steel Brothers & Co., Ltd., 6 Fenchurch Ave., London E. C., England; National Supply Corp., 120 Broadway, New York, N. Y.; Lucey Products Corp., 3505 Woolworth Bldg., New York, N. Y.; Oil Well Supply Co., Oil City, Pa.; Continental Emsco Co., 74 Trinity Place, New York, N. Y.; English Steel Corp., Ltd., Vickers House, Broadway, Westminster S. W. 1, London, England.

C

California Mfg. & Engineering Co.,
5333 S. Riverside Drive,
Los Angeles, Calif.
Distributors:
National Supply Co., Oil Well Supply Co., Petroleum Equipment Co., Drillers Contracting & Supply Co., Reed Roller Bit Co., Houston, Tex.
Export Offices:
Oil Well Engineering Co., Ltd., New York, N. Y.; Asiatic Petroleum Co., New York, N. Y.; Amtorg Trading Corp., New York, N. Y.

California Talc Co.,
837 Jackson St.,
Los Angeles, Calif.
Distributors:
Carl Ingalls, Bakersfield, Calif.; Rotary Materials Co., Brea, Calif., Long Beach, Calif.; Oil Well Supply Co., Coalinga, Calif., Elwood, Calif., Manicopa, Calif., Taft, Calif., New York, N. Y.; Speed & Service Trucking Co., Long Beach, Calif., Santa Fe Springs, Calif., Venice, Calif.; Crail Brothers, Long Beach, Calif., Santa Fe Springs, Calif., Venice, Calif.; Long Transportation Co., Ventura, Calif.; Bridgeport Machine Co., Eldorado, Kans., Hugoton, Kans., McPherson, Kans., Hobbs, N. M., Marietta, Ohio, Oklahoma City, Okla., Seminole, Okla., Maud, Okla., Tulsa, Okla., Breckenridge, Tex., Pampa, Tex., Odessa, Tex., Beaumont, Tex.; Nowery J. Smith Co., Lake Charles, La., Houston, Tex., Refugio, Tex., Pettus, Tex., Darst Creek, Tex.; Silica Products Co., Kansas City, Mo., Osage, Wyo.; Lucey Products Corp., Houston, Tex.
Export Offices:
Oil Well Supply Co., National Supply Co., Lucey Products Corp., Continental Supply Co.

Cameron Iron Works, Inc.,
711 Milby St., Houston, Tex.
Distributors:
All leading supply stores. Stocked by: Bridgeport Machine Co., Hobbs, N. M.; Hercules Supply Co., Hobbs, N. M.; Frick-Reid Supply Corp., Hobbs, N. M.; Bridgeport Machine Co., Oklahoma City, Okla.; Hercules Supply Co., Refugio, Tex.; Continental Supply Co., Refugio, Tex.; Hercules Supply Co., Pettus, Tex.; Wilson Supply Co., Pettus, Tex.; Continental Supply Co., Pettus, Tex.; Houston Oil Field Material Co., Pettus, Tex.
Export Offices:
National Supply Co., Acme Well & Supply Co., Oil Well Supply Co., Lucey Products Corp., Continental Emsco Co.

J. A. Campbell Co.,
Long Beach, Calif.

Philip Carey Co.,
Lockland,
Cincinnati, Ohio.
Branches:
Albany, N. Y.; Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Charlotte, N. C.; Cincinnati, Ohio; Dallas, Tex.; Dayton, Ohio; Denver, Colo.; Indianapolis, Ind.; Kansas City, Mo.; Knoxville, Tenn.; Minneapolis, Minn.; Newark, N. J.; New Orleans, La.; New York, N. Y.; Omaha, Nebr.; Philadelphia, Pa.; Pittsburgh, Pa.; Richmond, Va.; St. Louis, Mo.; Salt Lake City, Utah; Wheeling, W. Va.
Distributors:
Sorenson Brick & Mat Co., Albuquerque, N. M.; Young & Vann Supply Co., Birmingham, Ala.; T. L. Herberts & Sons, Nashville, Tenn.; Carey Co., Buffalo, N. Y.; Cleveland, Ohio; Detroit, Mich. J. J. Clarke Co., Ltd., New Orleans, La.; Guy M. Beaty, Charlotte, N. C.; Charlotte Supply Co., Charlotte, N. C.; Robert A. Keasbey Co., New York, N. Y.; James Supply Co., Chattanooga, Tenn.; Holland Lumber Co., Omaha, Nebr.; Breese Brothers, Cincinnati, Ohio; R. E. Kramig Co., Cincinnati, Ohio; Southwestern Mfg. & Supply Co., Phoenix, Ariz.; Rogers Asbestos Co., Dallas, Tex., Houston, Tex.; Pacific Building Materials Co., Portland, Ore.; Dyke Brothers, Fort Smith, Ark.; Galiger Co., Salt Lake City, Utah; Momsen-Dunnegan Ryan Co., El Paso, Tex.; Allyn L. Burr Co., Sacramento, Calif.; Banks Miller Supply Co., Huntington, W. Va.; Jones Brothers Asbestos Supply Co., San Francisco, Calif.; Cameron Barkley Co., Miami, Fla., Jacksonville, Fla., Tampa, Fla.; Pioneer Sand & Gravel Co., Inc., Seattle, Wash.; A. G. Heins Co., Knoxville, Tenn.; Nott Atwater Co., Spokane, Wash.; Fisher Cement & Roofing Co., Memphis, Tenn.; George Scoffield Co., Tacoma, Wash.; Warren & Bailey Co., Los Angeles, Calif.; Walter L. Lacey Co., Louisville, Ky.; Asbestos Covering & Roofing Co., Washington, D. C.; W. S. Nott Co., Minneapolis, Minn.
Export Offices:
Philip Carey Co. (Foreign Division), 44 Whitehall St., New York, N. Y.
Foreign Distributors:
Asbestos, Ltd., Montreal, Canada; Robert T. Purvis & Co., Montreal, Canada; Western Steel Products, Ltd., Winnipeg, Canada.

Caterpillar Tractor Co.,
Peoria, Ill.
Warehouses:
Albany, N. Y.; Memphis, Tenn.; Kansas City, Mo.; Spokane, Wash..
Factories:
Peoria, Ill.; Minneapolis, Minn.; San Leandro, Calif.
Distributors:
World-wide organization of dealers—no distributors.
Export Offices:
Dealers in every country.

Central Tube Co.,
1800 First National Bank Bldg.,
Pittsburgh, Pa.
Branches:
New York, N. Y.; Boston, Mass.; Chicago, Ill.; Philadelphia, Pa.
Representatives:
Texas and Louisiana — Allen, Sproull & Allen, 909 Burkburnett Bldg., Fort Worth, Tex. California—C. E. Saul, Monadnock Bldg., San Francisco, Calif.
Distributors:
Taubman Supply Corp., Tulsa, Okla., and branches; Petroleum Equipment Co., Los Angeles, Calif., and branches; American Supply Co., Mexia, Tex.

Chain Belt Co.,
1600 W. Bruce St.,
Milwaukee, Wis.
Branches:
Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Detroit, Mich.; Houston, Tex.; Los Angeles, Calif.; Minneapolis, Minn.; New York, N. Y.; Grand Rapids, Mich.; Chattanooga, Tenn.; Pittsburgh, Pa.; Portland, Ore.; San Francisco, Calif.; Seattle, Wash.; St. Louis, Mo.; Salt Lake City, Utah; Syracuse, N. Y.; Kansas City, Mo.
Distributors:
Rockfield Carson Co., 412 Guardian Trust Bldg., Denver Colo.; Lucey Products Corp., Tulsa, Okla.; Oklahoma City, Okla.; Duncan, Okla.; Maud, Okla.; New York, N. Y.; Houston, Tex.; San Antonio, Tex.; Shreveport, La.; Ensminseller Mill Furnishing Co., Kansas City, Mo., St. Louis, Mo.
Export Offices:
Lucey Products Corp., New York, N. Y.; Chain Belt Co. (Export Department), 1600 W. Bruce St., Milwaukee, Wis.

Champion & Barber, Inc.,
506 Subway Terminal Bldg.,
Los Angeles, Calif.
Branches:
Long Beach, Calif.; Taft, Calif.
Distributors:
Walter S. Fellows, 39 Cortlandt St., New York, N. Y.; Bailey-Becker Co., 410 Thompson Bldg., Tulsa, Okla.; Bettis Sales Co., 917 Merchants & Manufacturers Bldg., Houston, Tex.
Export Offices:
Walter S. Fellows, 39 Cortlandt St., New York, N. Y.

Chaplin-Fulton Mfg. Co.,
28-40 Penn Ave., Pittsburgh, Pa.
Distributors:
Westcott & Greis, Inc., Tulsa, Okla., Houston, Tex., Dallas, Tex., Los Angeles, Calif.; National Supply Co., Continental Supply Co., Oil Well Supply Co.
Export Offices:
Any of the above having export departments; Oil Well Engineering Co.

Chapman Valve Mfg. Co.,
Indian Orchard, Mass.
Branches:
Boston, Mass.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Los Angeles, Calif.; San Francisco, Calif.; Pittsburgh, Pa.; Detroit, Mich.; Houston, Tex.; Syracuse, N. Y.
Distributors:
Neville & Cleary, Inc., Atlanta, Ga., New Orleans, La.; Taubman Supply Corp., Tulsa, Okla.; Tomlinson MacLachlan, Inc., Cleveland, Ohio; Dailey & Dubois, Inc., Detroit, Mich.; James A. Riordan Co., Seattle, Wash.

Chicago Bridge & Iron Works,
2128 Old Colony Bldg.,
Chicago, Ill.
Branches:
New York, N. Y.; Cleveland, Ohio; Dallas, Tex.; Birmingham, Ala.; Tulsa, Okla.; Houston, Tex.; Detroit, Mich.; Philadelphia, Pa.; Boston, Mass.; San Francisco, Calif.; Seattle, Wash.
Export Offices:
30 Church St., New York, N. Y.; Apartado 2507, Havana, Cuba; F. A. Ortiz, San Juan, Porto Rico; L. G. Ensign San Fernando, Trinidad, British West Indies.

Chicago Pneumatic Tool Co.,
6 E. Fourty-fourth St.,
New York, N. Y.
Branches:
Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Los Angeles, Calif.; Detroit, Mich.; El Paso, Tex.; Knoxville, Tenn.; Minneapolis, Minn.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; San Francisco, Calif.; Seattle, Wash.; Oklahoma City, Okla.; Houston, Tex.; Tulsa, Okla.

Cincinnati Advertising Products Co.,

York and Colerain Aves.,
Cincinnati, Ohio.

Clark Brothers Co.,
Olean, N. Y.
Branches:
Tulsa, Okla.; New York, N. Y.; Sweetwater, Tex.; McCamey, Tex.
Distributors:
Smith, Booth, Usher Co., 225 Central Ave., Los Angeles, Calif.
Export Offices:
J. Melvin Strausner, 72 Turnmill St., London, E. C. 1, England.

Cleveland Trencher Co.,
20100 St. Clair Ave.,
Cleveland, Ohio.
Branches:
Chicago, Ill.; Toronto, Ontario, Canada.
Distributors:
Frank T. Hickey Co., 2528 Santa Fe Ave., Los Angeles, Calif.; Edward R. Bacon Co., Folsom at Seventeenth St., San Francisco, Calif.
Export Offices:
Cleveland Trencher Co. of Canada, Ltd., Eighteenth St. and Towns Road, Toronto, Ontario, Canada; J. S. Innes, Ltd., 1261 Bay St., Toronto, Ontario, Canada.

Climax Engineering Co.,
Clinton, Iowa.
Branches:
Tulsa, Okla.; Fort Worth, Tex.
Distributors:
Selected oil field supply houses.

Columbian Rope Co.,
309 Genesee St., Auburn, N. Y.
Branches:
Boston, Mass.; New York, N. Y.; Chicago, Ill.; New Orleans, La.; Philadelphia, Pa.
Distributors:
All National Supply Co. stores.
Export Offices:
National Supply Co., New York, N. Y.

Columbian Steel Tank Co.,
1401 to 1621 W. Twelfth St.,
Kansas City, Mo.
Branches:
Dallas, Tex.; New York, N. Y.; Denver, Colo.; Los Angeles, Calif.; San Francisco, Calif.
Distributors:
Trucks, Tanks and Oil Equipment—Herman Body Co., 4420 Clayton Ave., St. Louis, Mo.; Truck Engineering Co., 1801 E. Thirty-seventh St., Cleveland, Ohio; Schnabel Co., S. Tenth St., Pittsburgh, Pa.; Truck Equipment Co., Inc., 1791 Fillmore Ave., Buffalo, N. Y.; Perin-Walsh Co., 1540 Columbus Ave., Boston, Mass.; Interboro Hoist & Body Corp., Borden Ave. and Van Dam St., Long Island, N. Y.; Philadelphia Truck Equipment Co., 2045 N. Seventh St., Philadelphia, Pa.; Maryland Truck Equipment Co., 401 E. Centre St., Baltimore, Md.; 1060 Thirtieth St., N.W., Washington, D. C.; Dixie Culvert & Metal Co., P. O. Box 1343, Atlanta, Ga., Jacksonville, Fla.; Equipment Co., 101 Ninth Ave, South Nashville, Tenn.; Leland Equipment Co., P. O. Box 3098, Tulsa, Okla., 1916 Canton St., Dallas, Tex., 1321 S. Agnew St., Oklahoma City, Okla.; San Antonio Body Co., 823 Roosevelt Ave., San Antonio, Tex.; Sabco Sales Co., 3805 McKinney Ave., Houston, Tex.; California Steel Tank Co., Ltd., 617 Wright & Callender Bldg., Los Angeles, Calif.; A. Y. McDonald Mfg. Co., 1201-17 Dodge St., Omaha, Neb., 820 "O" St., Lincoln, Nebr., No. 2 W. Third St., Sioux City, Iowa. Bolted Tank and Oil Field Welded Tanks — California Columbian Steel Tank Co., Ltd., 617 Wright & Callender Bldg., Los Angeles, Calif.; Booth Tank Builders, Maud, Okla.; Cypress Tank Co., Inc., Shreveport, La.; Nowery J. Smith Co., 3610 McKinney Ave., Houston, Tex.; Haren Tank Co., Ponca City, Okla.; Martin Tank Co., Corsicana, Tex.; National Tank Co., Tulsa, Okla.; Service Tank Co., Oklahoma City, Okla.; J. W. Perron, Kevin, Mont.
Export Offices:
Leopoldo Sol y Cia, 384 Cangallo, Buenos Aires, Argentina; B. W. Deane, Port of Spain, Trinidad, British West Indies; General Supply Co., S. A., Mexico D. F., Mexico; Agencias Atlas, S. A., Tampico, Tamps, Mexico; R. E. Richardson & Co., Honolulu, Hawaii; A. F. McKee, Ingerio, Apartado 2041, Mexico City, Mexico; Columbian Steel Tank Co., Apartado 298, Maracaibo, Venezuela.

Columbus Forge & Iron Co.,
Columbus, Ohio.
Distributors:
Continental Supply Co., St. Louis, Mo.; Jarecki Mfg. Co., St. Louis, Mo.; Bovaird Supply Co., Tulsa, Okla.; Norvell-Wilder Supply Co., Beaumont, Tex.; Atlas Supply Co., Muskogee, Okla.; Republic Supply Co., Houston, Tex.; International Supply Co., Tulsa, Okla.; Wagner Supply Co., Fort Worth, Tex.; Dunigan Tool & Supply Co., Inc., Breckenridge, Tex.; Woodward Wight Co., New Orleans, La.; Hercules Supply Co., Fort Worth, Tex.; Standard Supply & Hardware Co., New Orleans, La.; Alamo Iron Works, San Antonio, Tex.
Export Offices:
Continental Emsco, Inc., New York, N. Y.; Acme Well Supply Co., Inc., New York, N. Y.; Edwards Machine & Tool Co., New York, N. Y.; W. S. Wilson Corp., New York, N. Y.; Oil Well Engineering, Ltd., New York, N. Y.; Jarecki Mfg. Co., Erie, Pa.

Conley Plastering Machine Co.,
3200 N. Alameda,
Compton, Calif.

Consolidated Ashcroft Hancock Co., Inc.,
11 Elias St., Bridgeport, Conn.
Branches:
Montreal, Quebec, Canada; Toronto, Ontario, Canada; Winnipeg, Manitoba, Canada; Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Buffalo, N. Y.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; Chicago, Ill.; Cleveland, Ohio; Cincinnati, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; Los Angeles, Calif.; Portland, Ore.; St. Louis, Mo.; Salt Lake City, Utah; San Francisco, Calif.; Seattle, Wash.; Tulsa, Okla.
Distributors:
Joy & Cox, Inc., 314 Tramway Bldg., Denver, Colo.; W. R. Ladewig, 238 S. San Pedro St., Los Angeles, Calif.; Harris Supply Co., 226 Stark St., Portland, Ore.; F. C. Richmond Mach. Co., 320-326 W. Second St., South, Salt Lake City, Utah; Western Engineering Co., 58 Main St., San Francisco, Calif.; Steam Supply & Rubber Co., 308 First Ave., South, Seattle, Wash.; Bovaird Supply Co., Mid-Continent Bldg., Tulsa, Okla.; James E. Degan Co., 2130 Franklin St., Detroit, Mich.; Dixie Mill Supply Co., Tchoupitoulas and St. Joseph Sts., New Orleans, La.; Gaylord & Butler Co., Wyoming Ave., Scranton, Pa.; Graft-Pelle Co., 111 N. Third St., Louisville, Ky.; Himelblay-Agazim & Co., 30 N. Dearborn St., Chicago, Ill.; James McCabe, P. O. Box 573, Greenville, S. C.; Murdock Mfg. & Supply Co., 426 Plum St., Cincinnati, Ohio; Sheffler-Gross Co., Inc., Drexel Bldg., Philadelphia, Pa.; Stulz-Sickles Co., 134 Lafayette St., Newark, N. J.; Uhrich Supply Co., 914 Central St., Kansas City, Mo.; George Worthington Co., 802 St. Clair Ave., N. W., Cleveland, Ohio; Continental Supply Co., St. Louis, Mo. (and all branches); National Supply Co., Toledo, Ohio (and all branches).
Export Offices:
Mechanical Equipment Co., Suite 927, 660 Catherine St., West, Montreal, Quebec; 200 Bay St., Room 314, Toronto, Ontario; Kipp-Kelly, Ltd., 68 Higgins Ave., Winnipeg, Manitoba; Dewrance & Co., London, England.

Continental Equipment Co., Inc.,
Suite 626-28 Subway Terminal Bldg., Los Angeles, Calif.
Distributors:
T. T. Word Supply Co., Carr and Leona Sts., Houston, Tex.; Worthington Machinery Corp. of Oklahoma, Tulsa, Okla.; California Machinery & Supply Co., 2449 Hunter St., Los Angeles, Calif.
Export Offices:
Joseph Streda, Str. Petre Cinta 11, Ploesti, Rumania.

Continental Supply Co.,
1501 Locust St., St. Louis, Mo.
Branches:
El Dorado, Ark.; Denver, Colo.; Bridgeport, Ill.; Coffeyville, Kans.; Eldorado, Kans.; Madison, Kans.; Peabody, Kans.; Russell, Kans.; Wichita, Kans.; Wichita Heights, Kans.; Winfield, Kans.; Bowling Green, Ky.; Owensboro, Ky.; Monroe, La.; Shreveport, La.; Conrad, Mont.; Kevin, Mont.; Hobbs, N. Mex.; Newark, Ohio; Ardmore, Okla.; Barnsdall, Okla.; Bartlesville, Okla.; Blackwell, Okla.; Bristow, Okla.; Cushing, Okla.; Duncan, Okla.; Garber, Okla.; Healdton, Okla.; Maud, Okla.; Oklahoma City, Okla.; Okmulgee, Okla.; Ponca City, Okla.; Seminole, Okla.; Shidler, Okla.; Tulsa, Okla.; Wewoka, Okla.; Pittsburgh, Pa.; Best, Tex.; Big Spring, Tex.; Borger, Tex.; Breckenridge, Tex.; Burkburnett, Tex.; Coleman, Tex.; Dallas, Tex.; Eastland, Tex.; Electra, Tex.; Fort Worth, Tex.; Graham, Tex.; Hebbronville, Tex.; Houston, Tex.; Luling, Tex.; McCamey, Tex.; Mexia, Tex.; Midland, Tex.; Mirando City, Tex.; Muenster, Tex.; Nocona, Tex.; Olney, Tex.; Pampa, Tex.; Pettus, Tex.; Pyote, Tex.; Ranger, Tex.; Refugio, Tex.; San Antonio, Tex.; Wichita Falls, Tex.; Charleston, W. Va.; Casper, Wyo.; Cody, Wyo.; Parco, Wyo.
Manufacturers Represented:
American Steel & Wire Co., wire rope; D & B Pump & Supply Co., sucker and pull rods, oil well pumps and supplies; Emsco Derrick & Equipment Co., rotary equipment and speed reduction units; Farrar & Trefts, Inc., boilers; Fairbanks-Morse & Co., engines, pumps, generators, motors, light plants and water systems; Gardner-Denver Co., steam and power slush pumps and steam drilling engines; Goodall Semi-Metallic Hose & Mfg. Co., rotary hose and couplings; Mechanical Rubber Co., belting, packing and hose; New Bedford Cordage Co., manila cordage; Tnemec Paint & Oil Co., paint, hot surface and pipe line coatings; Westcott Valve Co., drilling and line gate valves, christmas tree fittings and universal joints; Walworth Co., valves and fittings; Youngstown Sheet & Tube Co., seamless, lapweld and buttweld pipe, couplings, nails and steel sheets.
Export Offices:
Continental-Emsco Co., Inc., 74 Trinity Place, New York, N. Y. (London office: 316-317 Dashwood House, Old Broad St., E. C. 2); Continental Emsco, S. A. R., 7, Strada Eminescu, Ploesti, Rumania; Continental Supply Co., Ltd., 224 Traders Bldg., Calgary, Alberta, Canada; Continental Supply Co., Ltd., Okotoks, Alberta, Canada.

Cooper-Bessemer Corp.,
N. Sandusky St.,
Mount Vernon, Ohio
Branches:
Los Angeles, Calif.; Tulsa, Okla.; Dallas, Tex.; New York, N. Y.; Boston, Mass.; Shreveport, La.; Seminole, Okla.; Borger, Tex.; Amarillo, Tex.; El Dorado, Ark.; Parkersburg, W. Va.; Logan, Ohio; Houston, Tex.; Mount Pleasant, Mich.; Grove City, Pa.

Coppus Engineering Corp.,
344 Park Ave., Worcester, Mass.
Distributors:
Banks-Miller Supply Co., Huntington, W. Va.; P. W. Belcher, 415 Dooly Block, Salt Lake City, Utah; Bissell Engineering & Equipment Co., 31 E. Georgia St., Indianapolis, Ind.; Garrett-Burgess, Inc., Woodbrook Building, 5050 Joy Road, Detroit, Mich.; Carolina Steam Power Service Co., 28 Hertford Road, Charlotte, N. C.; R. B. Clapp & Co., 528 Leader Bldg., Cleveland, Ohio; R. S. Danforth, 16 California St., San Francisco, Calif.; J. E. Dilworth Co., 347 S. Front St., Memphis, Tenn.; G. H. Bolle, 120 Liberty St., New York, N. Y.; Edwin Elliot & Co., 560 N. Sixteenth St., Philadelphia, Pa.; H. M. Gassman, 513 N. Twenty-first St., Birmingham, Ala.; Joshua Hendy Iron Works, Inc., 200 Fine St., San Francisco, Calif.; Dan Henry, 455 Lakeside Drive, S. E. Grand Rapids, Mich.; Himelblau, Agazim & Co., 30 N. Dearborn St., Chicago, Ill.; W. B. Koliar, 418 W. Eleventh Ave., Flint, Mich.; Percy L. Luck, 1811 Masonic Tempie, New Orleans, La.; W. M. McKee, Inc., Oliver Building, Pittsburgh, Pa.; John R. Moore Co., 524 White Bldg., Buffalo, N. Y.; W. P. and R. S. Mars Co., 404 W. First St., Duluth, Minn.; S. C. Price, 302 Hazleton National Bank Bldg., Hazleton, Pa.; Rittelmeyer & Co., Bona Allen Bldg., Atlanta, Ga.; Sanderson Safety Supply Co., 71 Columbia St., Seattle, Wash.; Northern Engineering & Equipment Co., Houghton, Mich.; Steam Plant Equipment Co., 201 Mutual Bldg., Kansas City, Mo.; Stearns-Roger Mfg. Co., 1718 California St., Denver, Colo.; Superior Supply Co., Bluefield, W. Va.; Southern Engine & Pump Co., 615 Washington Ave., Houston, Tex.; Edward Soph, 215 Alexander Bldg., Tulsa, Okla.; S. Thomas Engineering Co., 6625 Delmar Blvd., St. Louis, Mo.; Tri-State Safety Appliance Co., P. O. Box 217, Picher, Okla.; J. A. Wahlberg, 53 W. Granite St., Butte, Mont.; R. B. Whitacre & Co., Inc., 205 S. Robert St., St. Paul, Minn.
Canadian Agents:
Affiliated Engineering Companies, Ltd., Southam Building, Montreal, Quebec; Dominion Equipment & Supply Co., Henry and Tecumseh Sts., Winnipeg, Manitoba; General Equipment, Ltd., 410 Homer St., Vancouver, British Columbia; A. S. Leitch Co., Ltd., 1123 Bay St., Toronto, Ontario; Riverside Iron Works, Ltd., 803 Twenty-fourth Ave., S. E., Calgary, Alberta.
Export Offices:
Sullivan Machinery Co., 400 N. Michigan Ave., Chicago, Ill.; Andersen, Meyer & Co., Ltd., Chinese P. O. Box 265, Shanghai, China (79 Madison Ave., New York, N. Y.); Baldwin Locomotive Works (India), Broad and Spring Garden Sts., Philadelphia, Pa.; H. E. Braisted (Japan), 17 Battery Place, New York, N. Y.; Earnshaw Docks & Honolulu Works, Manila, Philippine Islands (154 Broadway, New York, N. Y.); Fraser & Chalmers (S. A.), Ltd., P. O. Box 619, Johannesburg, South Africa; Engineering Co. of Portugal, Ltd., Rua dos Remolares, 12, Lisbon, Portugal; Gumersindo Garcia, Apartado 731, Madrid, Spain; Maskin A/S K. Lund Co., Oslo, Norway; Mechanical Supplies, Ltd., 79 Grenfell St., Adelaide, S. Australia; John Reid & Nephews, Charlotte St., Brisbane, Qd. Australia; Societe Anonyme De Travaux Techniques, Rue Solon 22, Athens, Greece; West India Machine & Supply Co., 75 Tetuan St., San Juan, Porto Rico; A. I. M. Winetraub, O'Reilly No. 11, Havana, Cuba; M. F. Kocherjinsky, 7 Polewaja St., Harbin, Manchuria, China.

Corona Products, Inc.,
Rogers, Ark.
Distributors:
Beaumont Cement Sales Co. Beaumont, Tex. (all branches in Texas, New Mexico, Louisiana and Mississippi); Norvell-Wilder Supply Co., Beaumont, Tex. (all branches in Texas, New Mexico, Louisiana and Mississippi).
Export Offices:
Deco Export, Inc., 13-15-17 White St., New York, N. Y.; Mexico and all South American countries.

Crane Co.,
836 S. Michigan Ave.,
Chicago, Ill.
Branches:
Aberdeen, S. D.; Aberdeen, Wash.; Albany, N. Y.; Albuquerque, N. M.; Anderson, Ind.; Asheville, N. C.; Atlanta, Ga.; Atlantic City, N. J.; Aurora, Ill.; Baltimore, Md.; Beaumont, Tex.; Billings, Mont.; Binghamton, N. Y.; Birmingham, Ala.; Boston, Mass.; Bridgeport, Conn.; Brooklyn, N. Y.; Buffalo, N. Y.; Camden, N. Y.; Canton, Ohio; Casper, Wyo.; Cedar Rapids, Iowa; Charleston, W. Va.; Charlotte, N. C.; Chattanooga, Tenn.; Cicero, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Columbus, Ohio; Corpus Christi, Tex.; Dallas, Tex.; Davenport, Iowa; Denver, Colo.; Des Moines, Iowa; Detroit, Mich.; Duluth, Minn.; East Chicago, Ind.; El Paso, Tex.; Erie, Pa.; Evanston, Ill.; Evansville, Ind.; Fargo, N. D.; Flint, Mich.; Fort Smith, Ark.; Fort Wayne, Ind.; Fresno, Calif.; Grand Island, Nebr.; Grand Junction, Colo.; Grand Rapids, Mich.; Great Falls, Mont.; Greensboro, N. C.; Greenville, S. C.; Harlingen, Tex.; Harrisburg, Pa.; Hartford, Conn.; Hempstead, N. Y.; Hollywood, Calif.; Houston, Tex.; Hyannis, Mass.; Indianapolis, Ind.; Jackson, Mich.; Jackson, Miss.; Jacksonville, Fla.; Jersey City, N. J.; Joliet, Ill.; Kansas City, Mo.; Knoxville, Tenn.; Lexington, Ky.; Lima, Ohio; Lincoln, Nebr.; Little Rock, Ark.; Lockport, N. Y.; Long Beach, Calif.; Los Angeles, Calif.; Lowell, Mass.; Macon, Ga.; Madison, Wis.; Mankato, Minn.; Mason City, Iowa; Memphis, Tenn.; Miami, Fla.; Milwaukee, Wis.; Minneapolis, Minn.; Mobile, Ala.; Muncie, Ind.; Muskogee, Okla.; Nashville, Tenn.; Newark, N. J.; New Haven, Conn.; New Orleans, La.; New York, N. Y.; Norfolk, Va.; Norristown, Pa.; Oakland, Calif.; Ogden, Utah; Oklahoma City, Okla.; Omaha, Nebr.; Oshkosh, Wis.; Pasadena, Calif.; Patterson, N. J.; Philadelphia, Pa.; Phoenix, Ariz.; Pittsburgh, Pa.; Pocatello, Idaho; Portland, Me.; Portland, Ore.; Providence, R. I.; Pueblo, Colo.; Reading, Pa.; Reno, Nev.; Richmond, Va.; Rochester, N. Y.; Rockford, Ill.; Sacramento, Calif.; Saginaw, Mich.; Salt Lake City, Utah; San Antonio, Tex.; San Bernardino, Calif.; San Diego, Calif.; San Francisco, Calif.; San Jose, Calif.; Santa Ana, Calif.; Santa Barbara, Calif.; Savannah, Ga.; Seattle, Wash.; Shreveport, La.; Sioux City, Iowa; Sioux Falls, S. D.; South Bend, Ind.; Spokane, Wash.; Springfield, Ill.; Springfield, Mass.; Springfield, Mo.; Stamford, Conn.; St. Louis, Mo.; St. Paul, Minn.; Syracuse, N. Y.; Tacoma, Wash.; Tampa, Fla.; Terre Haute, Ind.; Trenton, N. J.; Topeka, Kans.; Tucson, Ariz.; Tulsa, Okla.; Utica, N. Y.; Washington, D. C.; Waterbury, Conn.; Waukegan, Ill.; West Palm Beach, Fla.; White Plains, N. Y.; Wichita, Kans.; Wilkes-Barre, Pa.; Winona, Minn.; Worcester, Mass.; Yakima, Wash.; Youngstown, Ohio.
Export and Foreign Offices:
Crane Export Corp., 19-25 W. Forty-fourth St., New York, N. Y.; 301 Brannan St., San Francisco, Calif.; Crane Co. of Mexico, Mexico City, Mexico; Crane Co. of Cuba, Havana, Cuba; Crane Co. of Brazil, Sao Paulo, Brazil; Cie Crane, Paris, France; Cie Crane, Brussels, Belgium; Crane, Ltd., Montreal Quebec, Canada; St. Johns, Quebec, Canada; Calgary, Alberta, Canada; Edmonton, Alberta, Canada; Fort William, Ontario, Canada; Halifax, Nova Scotia, Canada; Hamilton, Ontario, Canada; London, Ontario, Canada; Moncton, New Brunswick, Canada; Ottawa, Ontario, Canada; Quebec, Quebec, Canada; Regina, Saskatchewan, Canada; Saskatoon, Saskatchewan, Canada; Sherbrooke, Quebec, Canada; St. John's, Newfoundland, Canada; Toronto, Ontario, Canada; Vancouver, British Columbia, Canada; Victoria, British Columbia, Canada; Windsor, Ontario, Canada; Winnipeg, Manitoba, Canada. Crane-Bennett, Ltd., London, E. I., England; Ipswich, England; Glasgow, Scotland; Manchester, England; Birmingham, England; Bombay, India; Bristol, England; Calcutta, India; Colombo, Ceylon; Karachi, India; Leeds, England; Madras, India; Rangoon, Burma.

Crosby Steam Gage & Valve Co.,
10 Roland St.,
Charlestown, Boston, Mass.
Branches:
Boston, Mass.; New York, N. Y.; Chicago, Ill.; Buffalo, N. Y.; Pittsburgh, Pa.
Distributors:
Westcott & Greis, Inc., Tulsa, Okla., Dallas, Tex., Los Angeles, Calif.; W. H. Curtin & Co., 419 Washington Ave., Houston, Tex.; Mason Equipment Co., 1914 Vermont Ave., Toledo, Ohio; Coon-DeVisser Co., 2051 W. Lafayette Blvd., Detroit, Mich.; R. J. Ziegler, 637 Minna St., San Francisco, Calif.
Export Offices:
Crosby Valve & Engineering Co., Ltd., 41 Foley St., London, England; Engineering Equipment Co., S. A., San Juan De Letran, Num 24, Mexico.

D

Darling Valve & Mfg. Co.,
Williamsport, Pa.
Branches:
New York, N. Y.; Oklahoma City, Okla.; Houston, Tex.; Los Angeles, Calif.
Distributors:
Frick-Reid Supply Corp., Tulsa, Okla., and branches; International Supply Co., Tulsa, Okla., and branches; Petroleum Supply Co., Houston, Tex.; McJunkin Supply Co., Charleston, W. Va., and branches.
Export Offices:
H. M. Hein, 152 W. Forty-second St., New York, N. Y.; Lucey Products Corp., 3505 Woolworth Bldg., New York, N. Y.; Stanley G. Flagg & Co., Ltd., 72-75 Turnmill St., London, England; Oil Well Engineering Co., Ltd., 8-10 Bridge St., New York, N. Y.

E. M. Dart Mfg. Co.,
134 Thurbers Ave.,
Providence, R. I.
Branches:
Toronto, 2, Ontario.
Distributors:
Bovaird Supply Co., Tulsa, Okla.; Producers Supply & Tool Co., Fort Worth, Tex.; Chicago Tube & Iron Co., Chicago, Ill.; J. R. Brockman Mfg. Co., St. Louis, Mo.; A. Harvey's Sons' Mfg. Co., Detroit, Mich.; C. T. Patterson Co., Inc., New Orleans, La.; General Machinery & Supply Co., San Francisco, Calif.
Export Offices:
Fairbanks Co., 393 Lafayette St., New York, N. Y.

Davis Regulator Co.,
2543 S. Washtenaw Ave.,
Chicago, Ill.
Branch:
New York, N. Y.
Distributors:
Westcott & Greis, Inc., Tulsa, Okla.; Los Angeles, Calif.; Dallas, Tex.; Houston, Tex.
Export Offices:
Davis Regulator Co., 2543 S. Washtenaw Ave., Chicago, Ill.

Dayton-Dowd Co.,
Quincy, Ill.
Branches:
Los Angeles, Calif.; San Francisco, Calif.; Houston, Tex.; Dallas, Tex.; New Orleans, La.; St. Louis, Mo.; Kansas City, Mo.; Tulsa, Okla.; Oklahoma City, Okla.; Chicago, Ill.; Pittsburgh, Pa.; Philadelphia, Pa.; New York, N. Y.

Dayton Rubber Mfg. Co.,
Dayton, Ohio.
Branches:
New York, N. Y.; Philadelphia, Pa.; Cleveland, Ohio; Detroit, Mich.; Milwaukee, Wis.; Chicago, Ill.; Atlanta, Ga.; Salt Lake City, Utah; Los Angeles, Calif.; Portland, Ore.; St. Louis, Mo.
Distributors:
Westinghouse Electric & Mfg. Co. (all sales offices); Oil Well Supply Co., National Supply Co., Local Mill Supply houses in all principal cities.
Export Offices:
Westinghouse Electric International Co.

Dearborn Chemical Co.,
310 S. Michigan Ave.,
Chicago, Ill.
Branches:
Boston, Mass.; Cincinnati, Ohio; Cleveland, Ohio; Denver, Colo.; Detroit, Mich.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Calif.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; San Francisco, Calif.

Export Offices:
Dearborn Chemical Co., Ltd., 3454-64 Dundas St., West, Toronto, Ontario (branch factory); Dearborn Chemical Co. of Cuba, Concha 3 K, Havana, Cuba; Dearborn Chemical Co., 829 Kaahumanu St., Honolulu, T. H.; Dearborn Chemical Co., Ltd., 24-36 Regent St., London, S. W. 1, England; Dearborn Chemical Engineering Co., Ltd., 2 Holden St., Redfern, N. S. W., Australia; Dearborn Chemical Co., S. A., Via Layetana 54, Barcelona, Spain; Dearborn Chemical Co., Calle Cochabamba 346-350, Buenos Aires, Argentina; C. MacQueen, care Morrison & Co., Casilla 212, Santiago, Chile.

Deep Rock Oil Corp.,
Atlas Life Bldg., Tulsa, Okla.
Branches:
Oklahoma City, Okla.; Chicago, Ill.; Omaha, Nebr.; Milwaukee, Wis.; Minneapolis, Minn.
Distributed through our own stations.
Export Offices:
Deep Rock Oil Corp., 111 Broadway, New York, N. Y.

DeSoto Foundry & Machine Co., Ltd.,
Mansfield, La.
Distributors:
Resistcor Engineering Corp., Tulsa, Okla. (all branches); Pelican Well Tool & Supply Co., Shreveport, La. (all branches); Mountain Iron & Supply Co., Wichita, Kans.
Export Office:
A. V. Simonson, export agent, 149 Broadway, New York, N. Y.

J. P. Devine Mfg. Co., Inc.,
Seventh and Shawnee Sts.,
Mount Vernon, Ill.
Branches:
New York, N. Y.; Chicago, Ill.; Boston, Mass.

Dillon Co.,
220 E. Brady St., Tulsa, Okla.
Distributors:
Smith Separator Co., Crane Co., Continental Supply Co.
Export Office:
Dillon Co., Tulsa, Okla.

Joseph Dixon Crucible Co.,
Wayne and Monmouth Sts.,
Jersey City, N. J.
Branches:
San Francisco, Calif.; Chicago, Ill.; Buffalo, N. Y.; St. Louis, Mo.; Philadelphia, Pa.; Boston, Mass.; New York, N. Y.
Export Offices:
Walworth International Co., 11 Broadway, New York, N. Y.; also Havana, Cuba; Mexico City, Mexico; Sao Paulo, Brazil; Buenos Aires, Argentina, Santiago, Chile; London, England; Sydney, Australia; Shanghai, China; Calcutta, India; Johannesburg, South Africa.

Dodge Brothers Corp.,
(Division of Chrysler Corp.)
7900 Joe Campau Ave.,
Detroit, Mich.
Distributors:
National dealer organization.
Export Office:
Chrysler Export Corp., Detroit, Mich.

Doheny Stone Drill Co.,
714 W. Tenth St.,
Los Angeles, Calif.
Branch:
Houston, Tex.
Distributors:
Murray Tool & Supply Co., (all branches).

Donovan Boiler Works, Inc.,
Camden Ave., South Side,
Parkersburg, W. Va.
Distributors:
Frick-Reid Supply Corp., Tulsa, Okla., and Pittsburgh, Pa. (all branches); National Supply Co., Toledo, Ohio (all branches in eastern fields); Great Northern Tool & Supply Co., Billings, Mont. (all Montana branches); Midland Iron Works, Billings, Mont. (all Montana branches); McJunkin Supply Co., Charleston, W. Va. (all branches); Jarecki Mfg. Co., St. Louis, Mo. (all eastern branches); United Pipe & Supply Co., Charleston, W. Va. (all eastern branches); Higbee Tool Co., Lancaster, Ohio (all eastern branches).
Export Offices:
Oil Field Equipment Co., 30 Church St., New York, N. Y.

Dow Chemical Co.,
Midland, Mich.
Branches:
New York, N. Y.; St. Louis, Mo.

Drane-Humphrey Co., Inc.,
503 San Angelo Natl Bank Bldg.,
San Angelo, Tex.
Branches:
Best, Tex.; McCamey, Tex.; Pyote, Tex.; Midland, Tex.; Hobbs, N. Mex.
Distributors:
Republic Supply Co., Seminole, Okla.; Republic Supply Co., Wichita, Kans.; Bovaird Supply Co., McPherson, Kans.

Dresser & Gorton, Inc.,
203 S. Detroit St., Tulsa, Okla.
Manufacturers Represented:
Stefco Steel Buildings; Anchor Post Fence, gates, railings; Oil States Mfg. Co., portable wood buildings; Williams Tool Corp., threading machines; U. S. Electric Tools, South Bend lathes, shop tools and supplies; Machine Tool & Supply Co., miscellaneous tools.

S. R. Dresser Mfg. Co.,
Fisher Ave., Bradford, Pa.
Distributors:
Dresser Coupling Co., 122 S. Michigan Ave., Chicago, Ill.; Grinnell Co. of the Pacific, 601 Brannan St., San Francisco, Calif.
Export Offices:
S. R. Dresser Mfg. Co., Fisher Ave., Bradford, Pa.; Consolidated Pneumatic Tool Co., Ltd., Egyptian House, 170 Picadilly, London, W. 1, England.

Driftmeter, Inc.,
616 Exchange Natl Bank Bldg.,
Tulsa, Okla.
Distributors:
Thrift Corp., M. & M. Bldg., Houston, Tex.; W. E. Parkening, 920 E. Twentieth St., Oklahoma City, Okla.

Dunn Brothers,
1301 W. T. Waggoner Bldg.,
Fort Worth, Tex.

E. I. DuPont de Nemours & Co., Inc.,
1616 Walnut St.,
Philadelphia, Pa.
Branches:
Tulsa, Okla.; San Francisco, Calif.
Export Office:
E. I. DuPont de Nemours & Co., Inc. export department, Parlin, N. J.

Duriron Co.,
N. Findlay St., Dayton, Ohio.
Branches:
Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.
Distributors:
Ryan Sales Co., 1124 Stahlman Bldg., Nashville, Tenn.; Edward Soph, 215 Alexander Bldg., Tulsa, Okla.; Sullivan Valve & Engineering Co., 910 S. Arizona St., Butte, Mont.; Virginia Equipment & Supply, 1714 Summit Ave., Richmond, Va.; Whiting & Stanton, 618 Exchange Bldg., Denver, Colo.; Ayres Engineering Co., 905 Post-Dispatch Bldg., Houston, Tex.; J. H. Brewer, 711 Westmount Ave., R-8, Box 650, Dallas, Tex.; H. B. Butler, 201 Builders Exchange Bldg., Tampa, Fla.; R. E. Chase & Co., 616 Tacoma Bldg., Tacoma, Wash.; Thomas C. Corin, 432 Lexington Bldg., Detroit, Mich.; George P. Davis, 406 Builders Bldg., P. O. Box 131, Charlotte, N. C.; Joseph W. Eshelman, 1220 Crawford Bldg., Birmingham, Ala.; C. E. Gibson, 210 Masonic Temple, Des Moines, Iowa; F. S. Gouldthrite, 210 S. Tenth St., Minneapolis, Minn.; W. H. Grant, 406 Jahncke Bldg., New Orleans, La.; R. L. Hanschke, 2021 Reveley Ave., Lakewood, Ohio; Industrial Equipment Co., 306 Jackson Bldg., Buffalo, N. Y.; F. W. Kolb, 274 Monadnock Bldg., San Francisco, Calif.; H. L. Moyler, Arcade Bldg., Eighth and Olive St., St. Louis, Mo.; G. R. Oster, 921 Hollingsworth Bldg., Los Angeles, Calif.; N. E. Philpot, 1931 Straus Bldg., 310 S. Michigan Ave., Chicago, Ill.; H. L. Price, 228 Southwest Temple St., Salt Lake City, Utah; I. L. Roark, 207 Mutual Bldg., Kansas City, Mo.
Export Offices:
Sir S. W. Royse & Co., Ltd., 20 Albert Square, Manchester, England; Henry Sontheimer, 7 Rue Cardinet, Paris, France; Galvapol, Ziegiergasse, Nr. 5, Vienna VII, Austria; Zweigburos Berlin von Werken der Metallindustrie, Kurfurstendamm 46, Berlin, W 15, Germany; Isidor Meyer, 67 St. Kongenagade, Copenhagen K, Denmark; Corso G. Ferraris 73, Torino (119), Italy; Henri Benedictus & Co., 133 Rue du Progres, Brussels, Belgium; A/S G. Hartman, Oslo, Norway; Guthridge, Ltd., 10/12 Parramatta Road, Camperdown, Sydney, Australia; Emmans, Ltd., 1111 Beaver Hall Hill, Montreal, Quebec; General Equipment, Ltd., 410 Homer St., Vancouver, British Columbia.

E

Eagle-Picher Lead Co.,
134 N. LaSalle St., Chicago, Ill.
Branches:
Cincinnati, Ohio; Cleveland, Ohio; Pittsburgh, Pa.; Philadelphia, Pa.; New York, N. Y.; Buffalo, N. Y.; Minneapolis, Minn.; Boston, Mass.; Detroit, Mich.; Baltimore, Md.; New Orleans, La.; Kansas City, Mo.; St. Louis, Ill.; Joplin, Mo.; Dallas, Tex.
Distributors:
Materials sold by all branches—also jobbers and distributors.
Export Office:
Eagle-Picher Lead Co., 420 Lexington Ave., Graybar Bldg., New York, N. Y.

Economy Pump & Oil Tool Co.,
4424 E. Forty-ninth St.,
Los Angeles, Calif.
Branch:
Fort Worth, Tex.
Distributors:
National Supply Companies (all branches).
Export Office:
National Supply Corp., any of its foreign addresses.

Edeleanu Co., Ltd.,
11 W. Forty-second St.,
New York, N. Y.
Export Office:
Main office abroad: Edeleanu Gesselschaft m. b. H., Berlin, W8.

Edward Valve & Mfg. Co.,
1200 W. One Hundred Forty-fifth St., E. Chicago, Ind.
Distributors:
Culbert Pipe & Fittings Co., Jersey City, N. J.; F. J. Hearty & Co., San Francisco, Calif.; Herr-Harris Co., Pittsburgh, Pa.; Maintenance Engineering Corp., Houston, Tex.; Maintenance Engineering Corp., Fort Worth, Tex.; McArdle & Cooney, Inc., Philadelphia, Pa.; Neville & Cleary, Inc., Atlanta, Ga.; Petroleum Equipment Co., Los Angeles, Calif.; Ray Engineering Co., Boston, Mass.; Riffe & Thomas, Inc., Charleston, W. Va.; Seattle Plumbing Supply Co., Seattle, Wash.; Taubman Supply Corp., Tulsa, Okla.; Lathrop-Trotter Co., Cincinnati, Ohio; Smiley Equipment Co., Kansas City, Mo.; Stearns-Roger Mfg. Co., Denver, Colo.

Electric Arc Cutting & Welding Co.,
152 Jelliff Ave., Newark, N. J.
Distributors:
Paul W. Wendt, 431 S. Dearborn St., Chicago, Ill.; A. D. Fishel, 942 Engineers Bldg., Cleveland, Ohio; William McCarthy, 308 James St., Syracuse, N. Y.; A. Barrelle, 185 Conway St., Greenfield, Mass.; Commercial Engineering Co., 1800 E St. N.W., Washington, D. C.; Filer Equipment Co., 24 North-West First Ave., Miami, Fla.; McMullen Machinery Co., 66 Ionia Ave., Grand Rapids, Mich.; F. S. Calkins, 1023 E. Ninth St., Los Angeles, Calif.; Mitchell Supply Co, 1132 Central Ave. N.E., Minneapolis, Minn.; Chase, Parker & Co., Inc., 288 Congress St., Boston, Mass.; Perine Machinery Co., 419 First Ave. S, Seattle, Wash.; Rush Machinery Co., 32 E. Carson St., Pittsburgh, Pa.; H. E. Gansworth, 65 Carroll St., Buffalo, N. Y.; C. H. Dockson Co., 40 W. Milwaukee Ave., Detroit, Mich.; H. M. Reynolds & Co., 716 N. Sixteenth St., Philadelphia, Pa.; Turner Supply Co., northwest corner St. Louis and Commerce Sts., Mobile, Ala.
Export Offices:
Arnhold & Co, 21 State St., New York, N. Y. (India); A. M. Carneiro & Co., 152 W. Forty-second St., New York, N. Y. (South America); Andrews & George Co., 50 Church St., New York, N. Y. (Japan); R. Cram & Co., 7-11 Water St., New York, N. Y. (New Zealand); A. C. Welding Co., London, England.

Electric Machinery Mfg. Co.,
1347 Tyler St., NE.,
Minneapolis, Minn.
Branches:
New York, N. Y.; Philadelphia, Pa.; Chicago, Ill.; Milwaukee, Wis.; St. Louis, Mo.
Distributors:
Electric Machinery Mfg Co., 1024 Post Dispatch Bldg., Houston, Tex.; 106-118 E. Iowa Ave., Memphis, Tenn.; 217 E. Archer St., Tulsa, Okla.; 99 Water St., New Haven, Conn.; 4136 Hawthorne Ave., Dallas, Tex.; Wilford Bldg., Thirty-third and Arch Sts., Philadelphia, Pa.; 913 E. Third St., Los Angeles, Calif.; 2300 Koppers Bldg., Pittsburgh, Pa.; 542 Call Bldg., San Francisco, Calif.; 64 N. Tenth St., Portland, Ore.; B-21 Railway Exchange Bldg., St. Louis, Mo.; 89 East Ave., Rochester, N. Y.; 940 City Savings Bank Bldg., Albany, N. Y.; 149-151 W. Second St., Salt Lake City, Utah; 1812 Masonic Bldg., New Orleans, La.; 220-222 Ninth Ave., N., Seattle, Wash.; 27-29 Main St., Spokane, Wash.; 176 Federal St., Boston, Mass.; 614 City Bank Bldg., Syracuse, N. Y.; 775 Ellicott Square, Buffalo, N. Y.; 612 Spitzer Bldg., Toledo, Ohio; 622 Broadway, Cincinnati, Ohio; 187-189 W. Hanover St. Trenton, N. J.; Commercial Bank Bldg., Charlotte, N. C.; 25 N. Duke St., Room 104, York, Pa.; 1088 Ivanhoe Road, Cleveland, Ohio; 41-43 Ellsworth Ave., SW., Grand Rapids, Mich.; 315 Traction Terminal Bldg., Indianapolis, Ind.; 1826 Washington Blvd., Easton, Pa.; 455 Dwight Bldg., Kansas City, Mo.; 10-320 General Motors Bldg., Detroit, Mich.; 514 Twenty-first St., P. O Box 1452, Knoxville, Tenn.; 326 Comer Bldg., Birmingham, Ala.

Elliott Core Drilling Co.,
4731 E. Fifty-second Drive,
Maywood, Calif.
Branch:
New York, N. Y.
Distributors:
Reed Roller Bit Co., Houston, Tex.; distributors exclusively in the United States east of the Rocky Mountains of the Elliott rotary core drill; Hinderlite Tool Co., Tulsa, Okla., distributors exclusively in the United States east of the Rocky Mountains of the Elliott cable tool core drill.
Export Office:
R. W. Perry, Port of Spain, Trinidad, B. W. I.

Elliott Mfg. Co.,
5423 McKinley Ave.,
Los Angeles, Calif.
Distributors:
Stock by Lucey Products Corp., Oklahoma City, Okla.; Tulsa, Okla.; Houston, Tex.
Export Offices:
Balfour-Guthrie, San Francisco, Calif.; Amtorg Trading Co., Los Angeles, Calif.; Oil Well Engineering Co., Ltd., New York, N. Y.

Empire Oil & Refining Co.,
Bartlesville, Okla.
Branches:
St. Paul, Minn.; St. Louis, Mo.; Chicago, Ill.; Kansas City, Mo.; Cleveland, Ohio.
Distributors:
Throughout 11 Central States.
Export Office:
Cities Service Export Oil Co., 25 Broadway, New York, N. Y.

Emsco Derrick & Equipment Co.,
6701-7101 S. Alameda St.,
Los Angeles, Calif
Branches:
Taft, Calif.; Bakersfield, Calif.; Coalinga, Calif.; Ventura, Calif.; Long Beach, Calif.; Torrance, Calif.; Santa Fe Springs, Calif.; Huntington Beach, Calif.; Dallas, Tex.; Houston, Tex.; Tulsa, Okla.
Distributors:
All Emsco and D&B products (except derricks) sold exclusively in Mid-Continent fields by Continental Supply Co.
Export Offices:
Continental Emsco Co., 74 Trinity Place, New York, N. Y.; Emsco Engineering, Ltd., St. Albans, Herts, England; Continental Emsco, S.A.R., 7, Strada Eminescu, Ploesti, Rumania.

Engineers Aerial Surveys,
403 Oklahoma Natural Gas Bldg.,
Tulsa, Okla.

Ethyl Gasoline Corp.,
135 E. Forty-second St.,
New York, N. Y.
Branches:
Denver, Colo.; Chicago, Ill.; Baltimore, Md.; Dayton, Ohio; Tulsa, Okla.; Los Angeles, Calif.; Atlanta, Ga.; North Kansas City, Mo.
Distributors:
Ninety-five oil refining companies; 3,700 independent jobbers.
Export Offices:
London, England; Paris, France; Toronto, Canada.

Exchange Banks of Tulsa,
Exchange Bank Building,
P. O. Box 2106, Tulsa, Okla.
Branches:
Three hundred correspondent banks located throughout the Mid-Continent oil field and connections in all principal financial centers of the United States.

F

Falk Corp.,
Milwaukee, Wis.
Our products handled by resellers in conjunction with their own.

Fenwick-Reddaway Mfg. Co.,
46 Paris St., Newark, N. J.
Branches:
Tulsa, Okla.; Oakland, Calif.
Distributors:
Intermate Belting & Supply Co., Chicago, Ill. Products handled by all supply companies.
Export Office:
Newark, N. J.

First National Bank & Trust Co.,
Oklahoma City, Okla.

First National Bank & Trust Co.,
Tulsa, Okla.

Fisher Governor Co.,
Marshalltown, Iowa.
Distributors:
Acme Engineering Agency, Indianapolis, Ind.; Bell & Gossett Co., Chicago, Ill; W. D. Cashin Co., Boston, Mass.; W. A. Case & Son Mfg. Co., Buffalo, N. Y.; Doermann-Roehrer Co., Cincinnati, Ohio; John Fensom Co., Richmond, Va.; Joseph W. Eshelman, Birmingham, Ala.; Fisher Governor Co., New York, N. Y.; O Gylstrom Co., Milwaukee, Wis.; Hanlon-Waters, Inc., Tulsa, Okla.; Hawley-Richardson-Williams, Salt Lake City, Utah; George W. Herlin, El Paso, Tex.; F. T. Hildred & Co., St. Paul, Minn.; Hoshall Machinery Co., Memphis, Tenn.; Joy & Cox, Inc., Denver, Colo.; James McCabe, Greenville, S. C.; Midwest Piping & Supply Co., at St. Louis, Mo., and Los Angeles, Calif.; D. C. Murphy Co., Davenport, Iowa; E. D. Morton & Co., Louisville, Ky.; O'Brien Steam Specialty Co., Syracuse, N. Y.; Power Equipment Co., Portland, Ore.; Rittelmeyer & Co., Atlanta, Ga.; Ross Mechanical Supply Co., Pittsburgh, Pa; Charles M. Setzer, Charlotte, N. C.; Sheffler-Gross Co., Philadelphia, Pa.; Standard Supply & Harwdare, New Orleans, La.; Grinnell Co., Seattle, Wash.; South Bend Supply Co., South Bend, Ind.; Tomlinson-MacLachlan, Inc., Cleveland, Ohio; Dalley & DuBois, Detroit, Mich.; Uhl Co., Minneapolis, Minn.; Uhrich Supply Co., Kansas City, Mo.; S. P Wright & Co., Butte, Mont.; R. J. Ziegler, San Francisco, Calif.; Allen, Mitchell & Co., Washington, D. C.; John Eager Howard, Baltimore, Md.; Oriental Engineering Co., Ltd., New York, N. Y.
Export Offices:
Fleck Brothers, Ltd., Vancouver, British Columbia; Mechanical Equipment Co., Montreal, Quebec; Metals, Ltd., Calgary, Alberta; H. Charlton Dod, Melbourne, Victoria, Australia; Barnshaw Docks & Honolulu Iron Works, Manila, P A.; David Wilson, Manchester, England; I. T. A. R. Intreprinderile Technice Asociate Romane, Ploesti, Rumania; Leopoldo Sol & Cia, Calle Camgallo 834, Buenos Aires, Argentina, South America; Power & Mine Supply Co., Winnipeg, Manitoba.

Fluor Corp., Ltd.,
Box 57, Station K (900 E. Fifty-ninth St.), Los Angeles, Calif.
Branches:
Kansas City, Mo.
Distributors:
Jackson Engineering Corp., Tulsa, Okla. (All branches.)

Foote Bros. Gear & Machine Co.,
111 N. Canal St., Chicago, Ill.
Branch:
New York, N. Y.
Distributors:
S. W. Calhoun, Asheville, N. C.; McBurney Stoker & Equipment Co., 619 Trust Co. of Georgia Bldg., Atlanta, Ga.; Carey Machinery & Supply Co., 119-121 E. Lombard St., Baltimore, Md.; H. M. Cassman, 513 N Twenty-first St., Birmingham, Ala.; Paul Wilson, 337 Chamber of Commerce Bldg., Boston, Mass.; R. F. Mosedale, Jackson Bldg., Buffalo, N. Y.; Earl E. Wright, 1302 Carter St., Chattanooga, Tenn.; S. Floyd Keener, 7 W. Sixth St., Cincinnati, Ohio; S. Floyd Keener, 3227 Scranton Road, Cleveland, Ohio; George J Fix Co., 2507 Commerce St., Dallas, Tex.; S. Howard Eisenberg, 1050 Elizabeth Ave., Denver, Colo.; G. W. Craighead, 4-230 General Motors Bldg., Detroit, Mich.; Ammex Equipment Co., 406 San Francisco St., El Paso, Tex.; National Mill Supply Co., 207-213 E. Columbia St., Fort Wayne, Ind.; George H. Dettling, 523 Michigan Trust Bldg., Grand Rapids, Mich.; Houston Armature Works, No 4 Preston Ave., Houston, Tex.; Banks, Miller Supply Co., Huntington, W. Va.; A. H. Tischer, 123 W. Maryland, Indianapolis, Ind.; J. E. Loughead, 413 Pythian Bldg., Kalamazoo, Mich.; C. F. Noeling, 8 E. Ninth St., Kansas City, Mo.; Hollis & Co., 305 E. Markham St., Little Rock, Ark.; C. H. Salmon, 520 Elmwood Ave., Buffalo, N. Y.; James Clark, Jr., Electric Co., 600 E. Bergman St., Louisville, Ky.; Sutor & Co., 2008 E. Slauson Ave., Los Angeles, Calif.; J E. Dilworth Co., 347-353 S. Front St., Memphis, Tenn.; Memphis Machine Works, 171 Vance Ave., Memphis, Tenn.; E. L. Parsons, 125 E. Wells St., Milwaukee, Wis.; J. C. Rowett, 421 S. Fifth St., Minneapolis, Minn.; Nashville Machine & Supply Co, 123 Third Ave., N., Nashville, Tenn.; M. P. Fillingham, Room 27, 116 Church St., New Haven, Conn.; Gibbens & Gordon, Inc., 532-34 Canal St., New Orleans, La.; C. H. Salmon, 520 Elmwood Ave., Niagara Falls, N. Y.; Max E. Landry, 211 Local Bldg., Oklahoma City, Okla.; William McNamee, 530 Fulton St, Peoria, Ill.; H. H. Snell, 1700 Walnut St., Philadelphia, Pa.; W. G. Keer, 697 Westinghouse Bldg., Pittsburgh, Pa.; Progressive Machine Engineering Co., 1335 E. Franklin St., Richmond, Va.; Erskine Healy, Inc., 420 St. Paul St., Rochester, N. Y.; S Floyd Keener, 401 Highland Ave., Salem, Ohio; National Equipment Co., 101 W. Second South St., Salt Lake City, Utah; F. Somers Peterson, 57 California St., San Francisco, Calif.; C. M. Lovsted & Co., 2212 First Ave. S., Seattle, Wash.; H. G. Bates, 1025 N. Sixth St., St. Louis, Mo.; J. L. Hart Machinery Co., Tampa, Fla.; B. F. Crawford & Co., Bauermeister Terminal, Terre Haute, Ind.; Howard Wittman,

319 Spitzer Bldg., Toledo, Ohio; S. F. Keener, 434 Ferndale Ave., Youngstown, Ohio.

Export Offices:
Canadian Representatives: Darling Brothers, Ltd., Montreal, Toronto, Quebec, Ottawa, Halifax, Winnipeg, Calgary; Frank Darling & Co., Ltd., 605 Second St., W., Calgary, Calgary, Canada. Cuban Representative: William Machinery Co., Ave. Del Brasil, No. 7, Havana, Cuba. Mexico: Ammex Equipment Co., 406 San Francisco St., El Paso, Tex.; Mexico States of Nuevo, Leon and Tamaulipas, C. Holck-y-Cia, Apartado Postal No. 1 Monterrey, Mexico.

Foster Wheeler Corp.,
165 Broadway, New York, N. Y.

Branches:
Atlanta, Ga.; Boston, Mass.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; Kansas City, Mo.; Los Angeles, Calif.; Milwaukee, Wis.; New Orleans, La.; Philadelphia, Pa.; Pittsburgh, Pa.; Salt Lake City, Utah; San Francisco, Calif.; Tulsa, Okla.; Honolulu, T. H.

Export Offices:
Foster Wheeler, Ltd., Canada Cement Co. Bldg., Montreal, Canada; Foster Wheeler, Ltd., Canadian Pacific Railway Bldg., Toronto, Canada; Foster Wheeler, Ltd., Aldwych House, Aldwych, W.C.2, London, England; Societe Anonyme Foster Wheeler, 42 Rue de Clichy, Paris, France.

Foxboro Co.,
Neponset Ave., Foxboro, Mass.

Branches:
Baltimore, Md.; New York, N. Y.; Boston, Mass.; Chicago, Ill.; Philadelphia, Pa.; Atlanta, Ga.; Pittsburgh, Pa.; Cleveland, Ohio; Los Angeles, Calif.; Rochester, N. Y.; San Francisco, Calif.; St. Paul, Minn.; Detroit, Mich.; Portland, Ore.; Tulsa, Okla.; Dallas, Tex.; Salt Lake City, Utah.

Export Offices:
Peacock Brothers, 660 St. Catherine St., W., Montreal, Quebec, Canada; Walker, Crosweller & Co., 20 Queen Elizabeth St., London, S. E. 1, England; N. V. Bureau Voor Economische Stoomproductie, Admiraliteitskade 75, Rotterdam, Holland; L. J. Healing & Co., Ltd., Shisei, Haikau, Hibiya Park, Tokyo, Japan; A/S G. Hartmann, P. O. Box No. 1, Oslo, Norway; A/B Ekstroma Maskinaffar O/Y, Helsingfors, Finland; Hans Buch, 47 Nyhavn, Copenhagen, Denmark; Leopoldo Sol & Co., Calle Cangello 834, Buenos Aires, Argentine, South America; Alfred Snashall, Ltd., 85 Pitt St., Sydney, Australia; J. E. Treacy, Strada Golesti No. 9, Ploesti, Rumania; Edward J. Nell Co., Ltd., P. O. Box 1640, Manila, Philippine Islands; Ettore Fiocchi, Piazza Castello No. 3, Milan, Italy; W. Arthur Fisher, 25-27 Tennyson St., Wellington, New Zealand.

Franklin Valveless Engine Co.,
Thirteenth St., Franklin, Pa.

Distributors:
Oil Well Supply Co., Oil City, Pa. (all branches).

Export Office:
Oil Well Supply Co., New York, N. Y.

Freeman Mfg. Co.,
Racine, Wis.

Distributors:
Frank Loeffler Supply Co., Oklahoma City, Okla.; William L. Sullivan, Hunt Bldg., Tulsa, Okla.; W. O. Everett, 611 Brookly Ave., Kansas City, Mo.; William Bruce Jones, 3857 Charles St., Omaha, Neb.; Kent Erwin Co., Builders Exchange, Minneapolis, Minn.; B. E. Donovan Co., 715 Donovan Bldg., Detroit, Mich.; Freeman Boiler & Engineering Co., 222 W. Adams St., Chicago, Ill.; American Boiler & Sheet Iron Works, Indianapolis, Ind.; L. R. Merritt & Co., 250 Park Ave., New York, N. Y.; J. F. Harvey, Salt Lake City, Utah.

Frick-Reid Supply Corp.,
(Eastern Division)
117 Sandusky St.,
Pittsburgh, Pa.
(Western Division)
106 N. Trenton St.,
Tulsa, Okla.

Branches:
Ardmore, Okla.; Bartlesville, Okla.; Blackwell, Okla.; Bristow, Okla.; Covington, Okla.; Cushing, Okla.; Duncan, Okla.; Healdton, Okla.; Oklahoma City, Okla.; Okmulgee, Okla.; Seminole, Okla.; Wewoka, Okla.; Amarillo, Tex.; Beaumont, Tex.; Best, Tex.; Big Spring, Tex.; Borger, Tex.; Breckenridge, Tex.; Dallas, Tex.; Electra, Tex.; Fort Worth, Tex.; Houston, Tex.; Luling, Tex.; McCamey, Tex.; Mexia, Tex.; Pampa, Tex.; Pettus, Tex.; Pyote, Tex.; Ranger, Tex.; San Antonio, Tex.; Van, Tex.; Wichita Falls, Tex.; Eldorado, Kans.; Wichita, Kans.; Winfield, Kans.; El Dorado, Ark.; Shreveport, La.; Hobbs, N. M.; Brookville, Pa.; Bradford, Pa.; Clarendon, Pa.; Clarion, Pa.; Warren, Pa.; Waynesburg, Pa.; Allen, Ky.; Ashland, Ky.; Glasgow, Ky.; Owensboro, Ky.; Whitesville, Ky.; Mount Pleasant, Mich.; Muskegon, Mich.; Bolivar, N. Y.; Marietta, Ohio; Clarksburg, W. Va.

Manufacturers Represented:
Axelson Mfg. Co., Ltd. (sucker rods, pull rods, plunger working barrels, pumps, stuffing boxes, etc.); Beaumont Iron Works Co. (rotary equipment, drawworks, crownblocks, traveling blocks, pumping hoists, steel pitmans, Samson posts, etc.); Donovan Boiler Works (oil country boilers); Rossendale-Ruboil Co. ("Camel Hair" belting); National Transit Pump & Machine Co. (pumps, compressors, pipe line equipment, etc.); William Powell Co. (valves); J. P. Ratigan ("Sure Grip" line of pumping equipment); Joseph Reid Gas Engine Co. (gas engines, bandwheels, receiving boxes and other refining equipment); John A. Roebling Sons Co. (wire lines); Jones & Laughlin Steel Corp. (tubular goods); Walworth Co. (valves, pipe fittings, etc.); Whitlock Cordage Co. (manila cordage).

Fulton Iron Works Co.,
1259 Delaware Ave.,
St. Louis, Mo.

Branches:
New York, N. Y.; New Orleans, La.; Springfield, Ohio; Tulsa, Okla.; Monroe, La.; Dallas, Tex.

Distributors:
P. C. Richmond Machinery Co., 320 W. Second South St., Salt Lake City, Utah; Commonwealth Electric Co., 417 Broadway, St. Paul, Minn.; Machinery Exporters, Ltd., 465 California St., San Francisco, Calif.; Gustavo Preston Co., 113 Broad St., Boston, Mass.

Export Office:
Manzana de Gomez, 415-416, Habana, Cuba.

G

Gardner-Denver Co.,
Quincy, Ill.

Branches:
Dallas, Tex.; Houston, Tex.; El Paso, Tex.; Los Angeles, Calif.; San Francisco, Calif.; Tulsa, Okla.; Denver, Colo.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; Cleveland, Ohio; Detroit, Mich.; Birmingham, Ala.; Butte, Mont.; Wallace, Mont.; Salt Lake City, Utah; Boston, Mass.; Scranton, Pa.; Pottsville, Pa.; Knoxville, Tenn.; Seattle, Wash.; Portland, Ore.; Duluth, Minn.

Distributors:
Continental Supply Co. (all stores); Emsco Derrick & Equipment Co. (Los Angeles) all stores; Republic Supply Co., Los Angeles, all stores; Norvell-Wilder Supply Co. (Beaumont, Houston and Fort Worth, Tex.); International Supply Co., all branches.

Export Offices:
Continental Emsco Co., New York, N. Y.; Gardner-Denver offices, Montreal Canada; Toronto, Canada; Kirkland Lake; Mexico City, Mexico; Lima, Peru; Madrid, Spain, London, England; Tokyo, Japan; Sydney, Australia.

Garlock Packing Co.,
Palmyra, N. Y.

Branches:
Baltimore, Md.; Birmingham, Ala.; Boston, Mass.; Calgary, Alberta; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio.; Denver, Colo.; Detroit, Mich.; Hamilton, Ontario; Houston, Tex.; Los Angeles, Calif.; New York, N. Y.; New Orleans, La.; Philadelphia, Pa.; Pittsburgh, Pa.; Portland, Ore.; Salt Lake City, Utah; San Francisco, Calif.; Seattle, Wash.; St. Louis, Mo.; Toronto, Ontario; Tulsa, Okla.; Vancouver, British Columbia; Winnipeg, Manitoba.

Export Offices:
General Electric, S. A. Buenos Aires, Argentina; Ramsay & Trenganowan, Ltd., Melbourne, Australia; Atkins & Co., Ltd., Adelaide, Australia; Atkins (W. A.), Ltd., Perth, Australia; Queensland Machinery Co., Ltd., Brisbane, Australia; Basil V. R. Greatre, Sydney, Australia; International Machinery Co., Oruro, Bolivia; International Machinery Co., Rio de Janeiro, Brazil; Sanbach Parker & Co., Demerara, British Guiana; International Machinery Co., Antofagasta, Chile; H. Oliviera & Son, Shanghai, China; Tulio Ospina y Cia, Medellin, Colombia; Soldevilla, Hernandez y Cia, Havana, Cuba; Axel S. Stangenberg, Copenhagen, Denmark; Gonsalez-Rubie & Co., Guayaquil, Ecuador; A/B Machinery O/Y Abo, Finland; Aux Forges de Vulcan, Paris, Lyon, Lille, Bordeaux, France; Ferguson & Timpson, Ltd., London, Great Britain; H. S. Gray Co., Honolulu, Hawaiian Islands; Arnhold & Co., Calcutta, Bombay, India; Okafuku Shoten, Ltd., Osaka, Tokyo; Ruhaak & Co., Sourabaya, Java; Chr. Bolbrugge, Mexico, D. F. Mexico; Mexican Machinery Co., S. A. Tampico, Mexico; A. Foster & Co., Auckland, New Zealand; A. Foster & Co., Peter Kennedy, New Zealand; A. Foster & Co., Christchurch, New Zealand; Elvind Koch A/S Oslo, Norway, Panama Hardware Co., Panama, Panama; W. R. Grace & Co., Lima, Peru; W. R. Grace & Co., Callao, Peru; the Edward J. Nell Co., Manila, Philippine Islands; H. Vaultier & Co., Lisbon, Portugal; Compania de Bombas y Maquinaria Worthington, Madrid, Spain; General Electric, S. A. Montevideo, Uruguay; Sanchex & Co., Caracas, Venezuela.

Gaso Pump & Burner Mfg. Co.,
First and Lansing Sts.,
Tulsa, Okla.

Export Office:
Gaso Pump & Burner Mfg. Co., 149 Broadway, New York, N. Y.

General American Tank Car Corp.,
230 S. Clark St., Chicago, Ill.

Branches:
New York, N. Y.; Los Angeles, Calif.; New Orleans, La.; Dallas, Tex.; Tulsa, Okla.; Buffalo, N. Y.

Export Offices:
Mexico City, Mexico; Berlin, Germany; Pekin, China.

General Electric Co.,
Schenectady, N. Y.

Sales Offices:
Akron, Ohio.; Amarillo, Tex.; Atlanta, Ga.; Baltimore, Md.; Binghampton, N. Y.; Birmingham, Ala.; Bluefield, W. Va.; Boston, Mass.; Buffalo, N. Y.; Butte, Mont.; Canton, Ohio; Charleston, W. Va.; Charlotte, N. C.; Chattanooga, Tenn.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Columbus, Ohio; Dallas, Tex.; Davenport, Iowa; Dayton, Ohio; Denver, Colo.; Des Moines, Iowa; Detroit, Mich.; Duluth, Minn.; El Paso, Tex.; Erie, Pa.; Fort Wayne, Ind.; Fort Worth, Tex.; Grand Rapids, Mich.; Hartford, Conn.; Houston, Tex.; Indianapolis, Ind.; Jackson, Mich.; Jacksonville, Fla.; Kansas City, Mo.; Knoxville, Tenn.; Los Angeles, Calif.; Louisville, Ky.; Memphis, Tenn.; Miami, Fla.; Milwaukee, Wis.; Minneapolis, Minn.; Nashville, Tenn.; Newark, N. J.; New Haven, Conn.; New Orleans, La.; New York, N. Y.; Niagara Falls, N. Y.; Oklahoma City, Okla.; Omaha, Neb.; Philadelphia, Pa.; Phoenix, Ariz.; Pine Bluff, Ark.; Pittsburgh, Pa.; Portland, Ore.; Providence, R. I.; Richmond, Va.; Roanoke, Va.; Rochester, N. Y.; St. Louis, Mo.; Salt Lake City, Utah.; San Antonio, Tex.; San Francisco, Calif.; Schenectady, N. Y.; Seattle, Wash.; Shreveport, La.; Spokane, Wash.; Springfield, Ill.; Springfield, Mass.; Syracuse, N. Y.; Tacoma, Wash.; Tampa, Fla.; Terre Haute, Ind.; Toledo, Ohio; Trenton, N. J.; Tulsa, Okla.; Utica, N. Y.; Washington, D. C.; Waterbury, Conn.; Wheeling, W. Va.; Worcester, Mass.; Youngstown, Ohio.

Foreign Offices:
Argentina: General Electric, S A., Buenos Aires, Cordoba, Rosario de Santa Fe, Tucuman and Mendoza. Australia: Australian General Electric Co., Ltd., Sydney, Melbourne, Adelaide, Brisbane, Newcastle, Queensland, Rockhampton, Maffra, Colac, Townsville, Canberra, Albury and Lismore. Belgium and Colonies: Societe d'Electricite et de Mecanique (Procedes Thomson-Houston & Carels) Societe Anonyme, Brussels, Belgium. Brazil: General Electric, S. A., Rio de Janeiro, Sao Paulo, Bahia, Porto Alegre, Bello Horizonte, Juiz de Fora, Belem, Curityba, Santos and Recife. Canada: Canadian General Electric Co., Ltd., Toronto. Central America: and Recife. Central America: International General Electric Co., Inc., Panama City, Panama; Guatemala City, Guatemala; New Orleans, La. Chile: International Machinery Co., Santiago, Antofagasta and Valparaiso, Nitrate Agencies, Ltd., Iquique. China: Andersen, Meyer & Co., Ltd., Shanghai; China General Edison Co., Shanghai. Colombia: International General Electric, S. A., Barranquilla, Bogota, Medellin and Cali. Cuba: General Electric Co. of Cuba, Havana and Santiago de Cuba. Ecuador: Guayaquil Agencies Co., Guayaquil. Egypt: British Thomson-Houston Co., Ltd., Cairo. France and Colonies: Compagnie Francaise Thomson-Houston, Paris; International General Electric Co., Inc., Paris; Compagnie Des Lampes, Paris. Germany: H. B. Peirce, representative, General Electric Co., Berlin. Great Britain and Ireland: International General Electric Co., Inc., British Thomson-Houston Co., Ltd., London, W.C.2; British Thomson-Houston Co., Ltd., Rugby. Greece and Colonies: Compagnie Francaise Thomson-Houston, Paris, France. Hawaii: W. A. Ramsey, Ltd., Honolulu. Holland: Mijnssen & Co., Amsterdam. India: International General Electric Co., Ltd., Calcutta, Bombay and Bangalore. Italy and Colonies: Compagnia Generale Di Elettricita, Milan. Japan: Shibaura Engineering Works, Tokyo; Tokyo Electric Co., Ltd., Kawasaki, Kanagawa-Ken; International General Electric Co., Inc., Tokyo. Java: International General Electric Co., Inc., Soerabaia. Mexico: General Electric, S. A., City of Mexico, Guadalajara, Monterrey, Vera Cruz and El Paso, Tex. Newfoundland: International General Electric Co., Inc., St. Johns, New Zealand: National Electrical & Engineering Co., Ltd., Auckland, Dunedin, Christchurch and Wellington. Paraguay: General Electric, S. A., Buenos Aires, Argentina. Peru: International Machinery Co., Lima. Philippine Islands: Pacific Commercial Co., Manila; International General Electric Co., Inc., Manila. Porto Rico: International General Electric Co. of Porto Rico, San Juan. Portugal and Colonies: Sociedade Iberica de Construcoes Electricas Lda., Lisbon. South Africa: South African General Electric Co., Ltd., Johannesburg, Capetown, Durban and Port Elizabeth. Spain and Colonies: Sociedad Iberica de Construcciones Electricas, Madrid, Barcelona, Bilbao, Valladolid and Sevilla. Switzerland: Trolliet Freres, Geneva. Uruguay: International General Electric, S. A., Montevideo. Venezuela: International General Electric, S. A., Caracas and Maracaibo.

Gates Rubber Co.,
999 S. Broadway, Denver, Colo.

District Representatives:
J. D. Brance, 1024 Post-Dispatch Bldg., Houston, Tex.; R. J. Tricon Co., 621 S. Peters St., New Orleans, La.; C. W. Steen, 4136 Hawthorne Ave., Dallas, Tex.; Max E. Landry, 211 Local Bldg., Oklahoma City, Okla.; Webb Belting Co., 1501 W. Twelfth St., Kansas City, Mo.; F. Somers-Peterson Co., 57 California St., San Francisco, Calif.; Sutor & Co., 2008 E. Slauson Ave., Los Angeles, Calif.; Emsco Derrick & Equipment Co., 6811 S. Alameda, Los Angeles, Calif.

General Mfg. Co.,
4127-33 Forest Park Ave.,
St. Louis, Mo.

Jobbers throughout United States.

General Paint Corp.,
160 Fremont St.,
San Francisco, Calif.

Branches:
Spokane, Wash.; Portland, Ore.; Tulsa, Okla.; Houston, Tex.; Dallas, Tex.; Great Falls, Mont.; Lewistown, Idaho; Chicago, Ill.; New York, N. Y.; Los Angeles, Calif.; Oakland, Calif.; Seattle, Wash.

Export Offices:
160 Fremont St., San Francisco, Calif.; 11 Broadway, New York, N. Y.

General Tire & Rubber Co.,
Englewood Ave at Holmes,
Akron, Ohio.

Branches:
Atlanta, Ga.; New York, N. Y.; Chicago, Ill.; Minneapolis, Minn.; Kansas City, Mo.; Dallas, Tex.; Denver, Colo.; Los Angeles, Calif.; San Francisco, Calif.; Seattle, Wash.

Distributors:
Agents in all trade centers.

Export Offices:
General Tire & Rubber Export Co., Akron, Ohio; Havana, Cuba; Mexico City, Mexico; Buenos Aires, Argentina; Sao Paulo, Brazil; Amsterdam, Holland.

Gilbert & Barker Mfg. Co.,
Springfield, Mass.

Branches:
New York, N. Y.; Chicago, Ill.; Tulsa, Okla.

Export Offices:
D. C. James, Room 229, Arcades, 76 Ave. des Champs-Elysees, Paris, France; B. T. W. Burgess, Greener House, 66-68 Haymarket St., London, S.W.I., England; R. A. Guilleaume, Gilbert & Barker Mfg. Co., Canovagasse 5, Vienna, I. Austria.

Girdler Corp.,
1363 S. Shelby St.,
Louisville, Ky.

This company has developed and patented process for the removal of hydrogen sulphide and carbon dioxide from gaseous mixtures.

Globe Oil Tools Co.,
P. O. Box "Z,"
Los Nietos, Calif.

Branches:
Oklahoma City, Okla.; Hobbs, N. Mex.; Bakersfield, Calif.; Ventura, Calif.; Kettleman Hills, Calif.; Taft, Calif.

Distributors:
All supply companies handle our equipment in the United States except in California where we maintain rental service.

B. G. Goble Mfg. Co.,
Box 88, Tulsa, Okla.

Distributors:
Frick-Reid Supply Corp. (all branches).

B. F. Goodrich Rubber Co.,
South Main St., Akron, Ohio.

Branches:
Atlanta, Ga.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; Kansas City, Mo.; Los Angeles, Calif.; New York, N. Y.; Philadelphia, Pa.; St. Louis, Mo.; San Francisco, Calif.; Seattle, Wash.

Goodyear Tire & Rubber Co., Inc.,
Akron, Ohio.

Branches:
Principal cities.

Goslin-Birmingham Mfg. Co., Inc.,
Birmingham, Ala.

Branches:
New York, N. Y.; Harvey, Ill.

Export Office:
Branch office: 82 Beaver St., New York, N. Y.

H. P. Gott Mfg. Co.,
Winfield, Kans.

Distributors:
Handled at all branches of Atlas Supply Co., Muskogee, Okla.; Bovaird Supply Co., Tulsa, Okla.; Bradford Supply Co., Bradford, Pa.; Bridgeport Machine Co., Wichita, Kans.; Continental Supply Co., St. Louis, Mo.; Drillers Supply Co., Eureka, Kans.; Dunigan Tool & Supply Co., Breckenridge, Tex.; Frick-Reid Supply Corp., Tulsa, Okla.; Hercules Supply Co., Fort Worth, Tex.; Houston Oil Field Materials Co., Houston, Tex.; Iverson Tool Co., Tulsa, Okla.; International Supply Co., Tulsa, Okla.; J. M. Supply Co., Monroe, La.; Jarecki Mfg. Co., St. Louis, Mo.; Mountain Iron & Supply Co., Wichita, Kans.; Murray Tool & Supply Co., Cleveland, Okla.; National Supply Co., Toledo, Ohio; Nolan Sales Co., Tulsa, Okla.; Norvell-Wilder Supply Co., Beaumont, Tex.; Oil Well Supply Co., Oil City, Pa.; Pelican Well Tool & Supply Co., Shreveport, La.; Producers Supply & Tool Co., Fort Worth, Tex.; Putnam Supply Co., Putnam, Tex.; Republic Supply Co., Houston, Tex.; Rex Supply Co., Sour Lake, Tex.; San Antonio Machine & Supply Co., San Antonio, Tex.; Standard Supply Co., Wichita Falls, Tex.; Superior Iron Works, Shreveport, La.; Wagner Supply Co., Fort Worth, Tex.; Western Supply Co., Tulsa, Okla.; Wilson Supply Co., Houston, Tex.

Export Offices:
Venezuela Gulf Oil Co., Pittsburgh, Pa.; Lucey Products Corp., 233 Broadway, New York, N. Y.; Oil Well Supply Co., 26 Broadway, New York, N. Y.; Anglo-Mexican Oil & Shipping Co., Ltd., 65 Broadway, New York, N. Y.; National Supply Corp., 120 Broadway, New York, N. Y.

Goulds Pumps, Inc.,
Seneca Falls, N. Y.

Branches:
Atlanta, Ga.; Boston, Mass.; Chicago, Ill.; Houston, Tex.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; Tulsa, Okla.; Cleveland, Ohio.

Distributors:
National Supply Co., Toledo, Ohio (all branches); Jenison Machinery Co., San Francisco, Calif.; Smith-Booth-Usher Co., Los Angeles, Calif.

Export Office:
All export business handled through main office, Seneca Falls, N. Y., and New York office, 16 Murray St.

Granger Indicator Co.,
137 N. Greenleaf,
Whittier, Calif.

Branches:
Tulsa, Okla.; Seminole, Okla.

Distributors:
Pelican Well Tool & Supply Co. carries a stock at all branches.

Export Office:
137 N. Greenleaf, Whittier, Calif.

Granite City Steel Co.,
Granite City, Ill.

Branches:
St. Paul, Minn.; Kansas City, Mo.; Chicago, Ill.; Dallas, Tex.; St. Louis, Mo.

Grant Oil Tool Co.,
2042-44 East Vernon Ave.,
Los Angeles, Calif.

Distributors:
All reputable supply companies

Export Offices:
Oil Well Supply Co., National Supply Corp., American Steel Export Co., Oil Well Engineering Co., Ltd.

Gray Processes Corp.,
901 Freilnghuysen Ave.,
Newark, N. J.

Joseph Greenspon's Sons Iron & Steel Co.,
3130 Hall St., St. Louis, Mo.
Branches:
Tulsa, Okla.; New York, N. Y.; Wheatland, Pa.

Grinnell Co., Inc.,
260 West Exchange St.,
Providence, R. I.
Branches:
Atlanta, Ga.; Charlotte, N. C.; Chicago, Ill.; Cleveland, Ohio; New York, N. Y.; Philadelphia, Pa.; Providence, R. I.; St. Louis, Mo.; Minneapolis, Minn.; St. Paul, Minn.; Warren, Ohio; San Francisco, Calif.; Los Angeles, Calif; Seattle, Wash.
Export Offices:
Montreal, Quebec; Toronto, Ontario.

Griscom-Russell Co.,
285 Madison Ave.,
New York, N. Y.
Branches:
Philadelphia, Pa.; Boston, Mass.; Buffalo, N. Y.; Rochester, N. Y.; Pittsburgh, Pa.; Indianapolis, Ind.; Massillon, Ohio; Chicago, Ill.; Cleveland, Ohio; Detroit, Mich.; Cincinnati, Ohio; Milwaukee, Wis.; Minneapolis, Minn.; Kansas City, Mo.; St. Louis, Mo.; New Orleans, La.; Houston, Tex.; Charlotte, N. C.; Atlanta, Ga.; Memphis, Tenn.; San Francisco, Calif.; Los Angeles, Calif.; Seattle, Wash.; Denver, Colo.; Tulsa, Okla.; Dallas, Tex.; Portland, Ore.

Guiberson Corp.,
Box 1106, Dallas, Tex.
Branches:
Los Angeles, Calif.; Tulsa, Okla.; Ponca City, Okla.; Newark, Ohio.
Distributors:
Our goods are handled by all major Oil Well Supply Companies and their branches throughout the United States and also in foreign countries.

Gulf Refining Co.,
Frick Bldg. Annex,
Pittsburgh, Pa.
Branches:
Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; Toledo, Ohio; Louisville, Ky.; Atlanta, Ga.; New Orleans, La.; Houston, Tex.

Gulf States Utilities Co.,
Lock Drawer 809,
Beaumont, Tex.
Branches:
Lake Charles, La.; Jennings, La.; Liberty, Hull, Sour Lake, Port Arthur, Dayton, Conroe, Huntsville, Calvert and Port Neches, Tex.

H

Erle P. Halliburton Co.,
Duncan, Okla.
Branches:
Houston, Tex.; Shreveport, La.; Beeville, Tex.; Shawnee, Okla.; Wichita, Kans.; Odessa, Tex.; Corsicana. Tex.
Export Offices:
Through local office or any supply houses.

Hamer Oil Tool Co., Ltd.,
2911 Cherry Ave.,
Long Beach, Calif.
Branch:
Long Beach, Calif.
Distributors:
Iverson Tool Co., Tulsa, Okla. (covers New Mexico, Oklahoma and West Texas exclusively); Thrift Corp., Houston, Tex. (covers Central and East Texas, Louisiana and Arkansas exclusively); Republic Supply Co., Oil Well Supply Co., Petroleum Equipment, National Supply Co., all with headquarters at Los Angeles, Calif., handle our line at all their branches throughout the State.
Export Office:
We handle direct from our headquarters at Long Beach all foreign and export business, giving the buyer the benefit of a more nominal price.

Hanlon-Waters, Inc.,
301 East First St.,
Tulsa, Okla.
Branches:
Houston, Tex.; Fort Worth, Tex.; Midland, Tex.
Companies Represented:
Fisher Governor Co., Marshalltown, Iowa; Victaulic Co. of America, 26 Broadway, New York, N. Y.; American Air Filter Co., Louisville, Ky.; Pennsylvania Forge Corp., Philadelphia, Pa.

Harrisburg Pipe & Pipe Bending Co.,
Harrisburg, Pa.
Branches:
New York, N. Y.; Philadelphia, Pa.; San Francisco, Calif.
Distributors:
Harrisburg Supply Co., Tulsa, Okla.; Oil Well Mfg. Co., 6000 S. Alameda Ave., Los Angeles, Calif.; National Supply Co.
Export Office:
National Supply Co.

Haynes Stellite Co. (Unit of Union Carbide & Carbon Corp),
Kokomo, Ind.
Branches:
Chicago, Ill., Cleveland, Ohio; Detroit, Mich.; Houston, Tex.; Los Angeles, Calif.; New York, N. Y.; San Francisco, Calif.; Tulsa, Okla.
Export Office:
30 East Forty-second St., New York, N. Y.

Hazard Wire Rope Co.,
Wilkes-Barre, Pa.
Branches:
New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; Chicago, Ill.; Fort Worth, Tex.; Houston, Tex.; Denver, Colo.; Birmingham, Ala.; San Francisco, Calif.; Los Angeles, Calif.; Tacoma, Wash.
Distributors:
Great Northern Tool & Supply Co., Billings, Mont.; Kevin, Mont.; Cody, Wyo.; Kemmerer, Wyo. Baash-Ross Tool Co., Los Angeles, Calif.; Bovaird Supply Co., 904 Mid-Continent Bldg., Tulsa, Okla.; Borger, Tex.; Beggs, Okla.; Maud, Okla.; Sapulpa, Okla.; Seminole, Okla.; Independence, Kans.; Wichita, Kans.; Winfield, Kans.; Cameron Tool & Supply Co., Cameron, W. Va.; Grotty & Co., Parkersburg, W. Va.; Danser Supply Co., Weston, W. Va.; Fort Worth Well Machinery & Supply Co., Inc., Fort Worth, Tex.; Houston Oil Field Material Co., Houston, Tex.; Refugio, Tex.; Seguin, Tex.; Mountain Iron & Supply Co., Parkersburg, W. Va.; Eldorado, Kans.; Eureka, Kans.; Madison, Kans.; Valley Center, Kans.; Wichita, Kans.; Prichard Supply Co., Mannington, W. Va.; Producers Supply & Tool Co., Marietta, Ohio; St. Mary's, W. Va.; Fort Worth, Tex.; Olney, Tex.; Graham, Tex.; Coleman, Tex.; Bristow, Okla.; Union Pipe & Supply Co., Bradford, Pa.
Export Offices:
Our own branch offices.

Headley Emulsified Products Co.,
1811 Franklin Trust Bldg.,
Philadelphia, Pa.
Branches:
Chicago, Ill.; New York, N. Y.
Distributors:
Tyler Patterson Co., Cleveland, Ohio; Asphalt Construction Co., Milwaukee, Wis.; Southern Granite Co., Cincinnati, Ohio; Gray Equipment Co., Detroit, Mich.; L. N. Sickels & Co., St. Paul, Minn.; S. S. Gill Co., Philadelphia, Pa.; B. F. Marsh Co., Worcester, Mass.; Building Supplies Corp., Norfolk, Va.; Harwood Brothers, Inc., Richmond, Va.; Goldsmith Mueller Co., St. Louis, Mo.; Areocrete Products & Construction Materials Co., Chicago, Ill.; Consumers Co., Chicago, Ill.; Faber-Musser Co., Peoria, Ill.; Griffith Consumers Co., Washington, D. C.; William S. Simpson, Inc., Boston, Mass.; Hudson Building Supply Co., Inc., Baltimore, Md.; Joyce Lumber & Supply Co., Omaha, Neb.; Beder Wood's Sons, Moline, Ill.; Achuff Railway Supply Co., St. Louis, Mo.; Stewart Sand & Material Co., Kansas City, Mo.; Columbus Coal & Lime Co., Columbus, Ohio; Jackson & Seguine, Hartford, Conn.; Material Service Corp., Chicago, Ill.; Ceresit Waterproofing Co., Chicago, Ill.; Rockford Lumber & Fuel Co., Rockford, Ill.; Charlotte Supply Co., Charlotte, N. C.; Rolls Chemical Co., Buffalo, N. Y.; W. R. Meadows, Inc., Elgin, Ill.; Connecticut Adamant Plaster Co., New Haven, Conn.; Cook Builders Supply Co., Springfield, Mass.; Smith Steel Supply Co., Pittsburgh, Pa.; Kuhlman Builders Supply & Brick Co., Toledo, Ohio; Morehouse & Wells Co., Decatur, Ill.; John T. D. Blackburn, Inc., Albany, N. Y.; George W. Pack & Son, Inc., Syracuse, N. Y.; Roofing & Improvement Co., Wilmington, Del.; Maintenance Supply Co., Chicago, Ill.; Gates-Tatterson & Co., San Francisco, Calif.; J. W. Lindsay Co., Newark, N. J.; Pierson Hardware Co., Pittsfield, Mass.; General Asbestos & Supply Co., Indianapolis, Ind.; Zanesville Builders Supply Co., Zanesville, Ohio.

Hedges-Walsh-Weidner Co.,
Chattanooga, Tenn.
Branches:
Kansas City, Mo.; San Francisco, Calif.; Houston, Tex.; St. Louis, Mo.; Cincinnati, Ohio; Detroit, Mich.; Chicago, Ill.; New York, N. Y.

C. M. Hoeter Sons & Co., Inc.,
Butler, Pa.
Distributors:
Hinderliter Tool Co, Jarecki Mfg. Co., National Supply Co., McJunkin Supply Co., United Pipe & Supply Co., Magner Supply Co., Frick-Reid Supply Corp., Midway Tool Co., Atha Supply Co., Zanesville Tool & Supply Co., Acme Tool Co., Acme Fishing Tool Co., Bridgeport Machine Co., Dunigan Tool & Supply Co., Drillers Supply Co., Great Northern Tool Co., Harrisburg Supply Co., International Supply Co., J. M. Supply Co., Monroe, La.; Mountain Iron & Supply Co., Murray Tool Co., Star Drilling Machine Co., Wooster Tool & Supply Co. (all branches).

Hercules Motors Corp.,
201 Eleventh St., S. E.,
Canton, Ohio.
Branches:
New York, N. Y.; San Francisco, Calif.; Tulsa, Okla.
Distributors:
Acadia Gas Engines, Ltd., Bridgewater, Nova Scotia; Alamo Iron Works, San Antonio, Tex.; American Machinery & Supply Co., Omaha, Neb.; Edward R. Bacon Co., San Francisco, Calif.; Bacon-Hibbard-Eichman, Inc., Cleveland, Ohio; Biggs & Co., Wichita Falls, Tex.; Bovaird & Co., Bradford, Pa.; Cyril J. Burke, Detroit, Mich.; Forslund Pump & Machinery Co., Kansas City, Mo.; Fort Wayne Pipe & Supply Co., Fort Wayne, Ind.; General Machinery Co., Spokane, Wash.; Hardwick-Etter Co., Sherman, Tex.; James C. Harvey, Santa Fe, N. Mex.; Hedge & Mattheis Co., Boston, Mass.; Hudson Supply & Equipment Co., Washington, D. C.; Jay Bee Sales Co., Oklahoma City, Okla.; La Lance Equipment Co., Huntington, W. Va.; Michigan Equipment Co., Pontiac, Mich.; H. W. Moore Equipment Co., Denver, Colo.; K. B. Noble Co., Hartford, Conn.; Norvell-Wilder Supply Co., Beaumont, Tex.; Henry A. Petter Supply Co., Paducah, Ky.; Richards & Hirschfeld, Inc., New York, N. Y.; F. C. Richmond Machinery Co., Salt Lake City, Utah; Service Supply Corp., Philadelphia, Pa.; R. W. Simpson, Des Moines, Iowa; Smith-Booth-Usher Co., Los Angeles, Calif.; Standard Salt & Cement Co., Duluth, Minn.; Strickland Foundry & Machinery Co., New York, N. Y.; Stumpp & Lehti, New York, N. Y.; Roy C. Whayne Supply Co., Louisville, Ky.; Worthington Machinery Co., Tulsa, Okla.; Yancey Brothers, Inc., Atlanta, Ga.
Export Offices:
Automotive Products Co., London, England; Berlin, Germany; Vienna, Austria. K. Hattori & Co., Ltd., Tokyo, Japan.

Hercules Supply Co.,
W. T. Waggoner Bldg.,
Fort Worth, Tex.
Branches:
Refugio, Tex.; Pampa, Tex.; Pettus, Tex.; Wink, Tex.; Vernon, Tex.; Hobbs, N. Mex.

Distributors:
American Steel & Wire Co., American Cordage, Spang Chalfant & Co., B. F. Goodrich Rubber Co., Walworth Co., Crane Co., Guiberson Corp., Hughes Tool Co., B. & T. Co., Cameron Iron Works, Lucey Products Corp., Worthington Pump & Machinery Corp., William Powell Co., Regan Forge & Engineering Co., Spang & Co., Westinghouse & General Electric., Beaumont Iron Works, Baldwin Chain, Baker Oil Tools, Bettis Protectors, Durnell Co.

Hercules Tool Co.,
P. O. Box 286, Palace Bldg.,
Tulsa, Okla.
Distributors:
Atlas Supply Co., Muskogee, Okla. (all branches); Continental Supply Co., 1501 Locust St., St. Louis, Mo. (all branches); Republic Supply Co., Drawer 1733, Houston, Tex. (all branches); Bovaird Supply Co., P. O. Box 412, Tulsa, Okla. (all branches); Frick-Reid Supply Corp., 117 Sandusky St., N. S. Pittsburgh, Pa., Branch Mount Pleasant, Mich.; Hercules Supply Co., Box 596, Fort Worth, Tex. (all branches); International Supply Co., Box 862, Tulsa, Okla. (all branches); Jarecki Mfg. Co., Drawer 1418 Central Sta., St. Louis, Mo.; (all branches); Mountain Iron & Supply Co., Wichita, Kans. (all branches); National Supply Co., Box 899, Toledo, Ohio, Muskegon and Mount Pleasant, Mich.; Logan and Cambridge, Ohio branches; McJunkin Supply Co., Charleston, W. Va.; Nolan Sales Co., Tulsa, Okla.
Export Offices:
American Steel Export Co., 295 Madison Ave., New York, N. Y.; Continental Emsco Co. carry a stock of our tools in their Rumania branch.

Highland Iron & Steel Co.,
400 W. Madison St.,
Chicago, Ill.
Branch:
Terre Haute, Ind.

Hills-McCanna Co.,
2348 Nelson St., Chicago, Ill.
Branches:
Tulsa, Okla.; Houston, Tex.; New York, N. Y.; Los Angeles, Calif.; San Francisco, Calif.; Wichita Falls, Tex.
Distributors:
In all principal cities, jobbers do not stock, but will quote.

Hope Engineering Co.,
Mount Vernon, Ohio.
Branches:
New York, N. Y.; Tulsa, Okla.

Hopper Machine Works, Inc.,
Box 1226, Bakersfield, Calif.

Charles N. Hough Mfg. Co.,
P. O. Box 151, Franklin, Pa.
Distributors:
Continental Supply Co., 1501 Locust St., St. Louis Mo. (all branches); Republic Supply Co., Houston, Tex. (all branches); Jarecki Mfg. Co., St. Louis Mo. (all branches); Atlas Supply Co., Muskogee, Okla. (all branches); Bradford Supply Co., Bradford, Pa. (all branches); Wilson Supply Co., Houston, Tex. (all branches); Keystone Pipe & Supply Co., Butler, Tex. (all branches); Producers Supply & Tool Co., Marietta, Ohio (all branches); Marion Machine Foundry & Supply Co., Marion, Ind. (all branches); McEwen Brothers, Bolivar, N. Y.; Lloyd, Smith Co., Bradford, Pa.; Kane Supply Co., Kane, Pa.; Petroleum Supply Co., Steubenville, Ohio; New Martinsville Supply Co., New Martinsville, W. Va.; Western Drilling Tool & Supply Co., Chanute, Kans.
Export Offices:
American Steel Export Co., 295 Madison Ave., New York, N. Y.; Lucey Products Corp., 3505 Woolworth Bldg., New York, N. Y.; Continental Emsco Co., Inc., 74 Trinity Place, New York, N. Y.

Houston Car Wheel & Machine Co.,
2005 White, Houston, Tex.

Houston Ready-Cut House Co.,
Polk and Milby Sts.,
Houston, Tex.
Export Office:
Houston Ready-Cut House Co., Houston, Tex.

Hughes Tool Co.,
300 Hughes St., Houston, Tex.
Branches:
Los Angeles, Calif.; Oklahoma City, Okla.; Midland Tex.; New York, N. Y.
Distributors:
Atlas Supply Co., Muskogee, Okla.; Alamo Iron Works, San Antonio, Tex.; Bovaird Supply Co., Tulsa, Okla.; Bradford Supply Co., Wichita Falls, Tex., Bridgeport Machine Co., Wichita, Kans.; Continental Supply Co., St. Louis, Mo.; Frick-Reid Supply Corp., Tulsa, Okla.; Ged Iron Works, Vinton, La.; Hercules Supply Co., Fort Worth, Tex.; International Supply Co., Tulsa, Okla.; Jarecki Mfg. Co., St. Louis, Mo.; Lucey Products Corp., Tulsa, Okla.; Murray Tool & Supply Co., Cleveland, Okla.; National Supply Co., Toledo, Ohio; Norvell-Wilder Supply Co., Beaumont, Tex.; Oil Well Supply Co., Oil City, Pa.; Peden Co., Houston, Tex.; Pelican Well Tool & Supply Co., Shreveport, La.; Producers Supply Co., Fort Worth, Tex.; Republic Supply Co., Houston, Tex.; Rex Supply Co., Sour Lake, Tex.; Sabine Supply Co., Orange, Tex.; San Antonio Machinery & Supply Co., San Antonio, Tex.; Standard Supply Co., Wichita Falls, Tex.; Superior Iron Works, Shreveport, La.; Western Supply Co., Tulsa, Okla.; Wilson Supply Co., Houston, Tex.; T. T. Word Supply Co., Houston, Tex.
Export Offices:
Balfour-Williamson & Co., 67 Wall St., New York, N. Y.; Continental Supply Co., 74 Trinity Place, New York, N. Y.; Lucey Products Corp., 3505 Woolworth Bldg., New York, N. Y.; Hughes Tool Co., 3912 Woolworth Bldg., New York, N. Y.; National Supply Co., 120 Broadway, New York, N. Y.; Oil Well Supply Co., 60 East Forty-second St., New York, N. Y.; Oil Well Engineering Co., 8-10 Bridge St., New York, N. Y.

Humble Oil & Refining Co.,
Humble Building,
Houston, Tex.
Distributors:
Oils: Gasoline, kerosene, lubricating oils, gas oils, fuel oils.

Hyatt Roller Bearing Co.,
P. O. Box 476, Newark, N. J.
Branches:
Chicago, Ill.; Pittsburgh, Pa.; Oakland, Calif.; Detroit, Mich.
Distributors:
Bearing replacement in the United States and Canada through builders of machinery equipped with Hyatt roller bearings. Bearings stocked by our service agency, United Motors Service, at various points in the United States and Canada, for automotive, tractor and implement replacement only.
Export Offices:
Delco-Remy & Hyatt, Ltd., 111 Grosvenor Road, London, S.W.I., England, for British Isles Overseas Motor Service Corp., 1775 Broadway, New York, N. Y., for continent and other countries.

I

Imperial Belting Co.,
Lincoln and Kinzie Sts.,
Chicago, Ill.
Distributors:
Oil Well Supply Co.: Hillman-Kelley, Inc., Los Angeles, Calif.
Export Offices:
Oil Well Supply Co.

Inferno Gas Burner Co.,
Box 235, Sapulpa, Okla.

Ingersoll-Rand Co.,
11 Broadway, New York, N. Y.
Branches:
Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Butte, Mont.; Chicago, Ill.; Cleveland, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; Duluth, Minn.; St. Paul, Minn.; El Paso, Tex.; Hartford, Conn.; Houston, Tex.; Knoxville, Tenn.; Los Angeles, Calif.; New Orleans, La.; Newark, N. J.; Philadelphia, Pa.; Picher, Okla.; Pittsburgh, Pa.; Pottsville, Pa.; Salt Lake City, Utah; San Francisco, Calif.; Scranton, Pa.; Seattle, Wash.; St. Louis, Mo.; Tulsa, Okla.; Washington, D. C.
Export Offices:
Honolulu, Hawaii, T. H., Honolulu Iron Works Co.; Manila, P. I., Earnshaws Docks & Honolulu Iron Works; British West Indies, Trinidad, Port-of-Spain, Massy, Ltd., 35 Marine Square; Cuba, Havana, Ingersoll-Rand, Inc., O'Reilly No. 49, Edificio Moenck & Quintana; Dominican Republic and Haiti, Cia. Electrica de Santa Domingo, C. Por A., Santa Domingo, R. D.; Mexico, D. F., Ingersoll-Rand, Inc., Edificio Palavicini 409-410 Calle Bucarelli, No. 12; San Juan, Puerto Rico, Ulpiano Casal, Ochoa Building; Argentine, Buenos Aires, General Electric, S. A., Calle Victoria No. 618, esq. Peru; Bolivia, Oruro, International Machinery Co., Casilla 254; Brazil, Rio de Janeiro, Ingersoll-Rand Co. of Brazil, Rua Theophilo Ottoni, 48; Brazil, Sao Paulo, Ingersoll-Rand Co. of Brazil, Ladeira-Santa Ephicenia No. 19; Chile, Antofagasta, International Machinery Co., Calle San Martin, 306; Chile, Santiago, International Machinery Co., Calle Morande, 530; Chile, Valparaiso, International Machinery Co., Plaza Sotomayor, 5; Chile, Iquique, Nitrate Agencies, Ltd.; Colombia, Barranquilla, International General Electric, S. A., 29 Calle Real; Colombia, Bogota, International General Electric, S. A., Carrera 8a con Calle 13; Colombia, Cali, International General Electric, S. A., Apartado 323; Colombia, Medellin, International General Electric, S. A., Apartado 11; Peru, Lima, Ingersoll-Rand Co., Divorciadas No. 607; Uruguay, Montevideo, General Electric, S. A., Uruguay 764; Venezuela, Caracas, International General Electric, S. A., Madrices a Ibarra 12; Venezuela, Maracaibo, International General Electric, S. A., Apartado 292; England, London, E. C. 4, Ingersoll-Rand Co., Ltd., 165 Queen Victoria St.; England, Manchester; Ingersoll-Rand Co., Ltd., 196, Deansgate; Scotland, Glasgow C. 2, Ingersoll-Rand Co., Ltd., 20, Renfrew St.; Denmark and Colonies, Copenhagen V., Paul Nathansen, Hammerichsgade 14; Finland, Helsingfors, Finska Electriska A. B.; Holland, Den Haag, Technisch Bureau Marynen Waldorpstraat 52; Norway, Oslo, K. Lund & Co., Revierstraedet 3; Sweden, Stockholm 3, Amerikanska Gummi A-B; France, Paris 8e, Compagnie Ingersoll-Rand, 46 Rue de Courcelles; Switzerland, Zuric, Robert AEBI & Cie. A. S., Werdmuhleplatz 2; Spain, Madrid, Compania Ingersoll-Rand, Calle Santa Catalina 5; Belgium, Brussels, Compagnie Belge Ingersoll-Rand, 62 Chaussee de Mons; Italy, Milano (137), Nicola Romeo & Co., Via M. U. Traiano 33; Austria, Vienna, Ingersoll-Rand Gesellschaft mbH., Afrikanergasse 3, Vienna 2, Austria; Czecho-Slovakia, Prague II, Toka G. m. b. H., Diazdena 2; Germany, Frankfort a. M., Ingersoll-Rand G. m. b. H., Weserstrasse No. 33; Rumania, Ploesti, Ingersoll-Rand, S.A.R., B-dul Regele Ferdinand, 49;

Australia, Melbourne, Ingersoll-Rand (Australia) Proprietary, Ltd., Collins House, 360 Collins St.; New South Wales, Sydney, Ingersoll-Rand (Australia) Proprietary, Ltd., 100 Clarence St.; West Australia, Kalgoorlie, Ingersoll-Rand (Australia) Proprietary, Ltd., P. O. Box 152; Johannesburg, Transvaal, Ingersoll-Rand Co. — South Africa, Ltd., Exploration Buildings; Gold Coast, Sekondi, African & Eastern Trading Corp.; China, Shanghai, Jardine Engineering Corp., Ltd., Engineering Dept., P. O. Box 1238; China, Hongkong, Jardine Engineering Corp., Ltd.; China, Tientsin, Jardine Engineering Corp., Ltd.; Manchuria, Mukden, Jardine Engineering Corp., Ltd.; Manchuria, Pristan, Harbin, Jardine Engineering Corp., Ltd., P. O. Box 204; India, Calcutta, Ingersoll-Rand (India), Ltd., 15 Clive St.; India, Bombay, Ingersoll-Rand (India), Ltd., Shahibag House, Wittett Road, Ballard Estate, Burma, Rangoon, Irrawaddy Flotilla Co., P. O. Box 129; Straits Settlements, Singapore, Ingersoll-Rand (India), Ltd., 4-5 Raffles Quay; Japan, Tokyo, American Trading Co. of Japan, Ltd., No. 1 Itchome, Yarakucho Kojimachi-Ku; Japan, Kobe, American Trading Co. of Japan, Ltd.; Netherlands East Indies, Batavia, Lindeteves-Stokvis; Netherlands East Indies, Semarang, Lindeteves-Stokvis; Netherlands East Indies, Soerabaja, Lindeteves-Stokvis.

International Derrick & Equipment Co.,
875 Michigan Ave.,
Columbus, Ohio.

Branches:
Marietta, Delaware, Ohio; Los Angeles, Taft, Torrance, Bakersfield, Calif.; New York, N. Y.; Tulsa, Seminole, Tonkawa, Drumright, Okemah, Maud, Sasakwa, Allen, Oklahoma City, Okla.; Wichita, Eldorado, Wichita Heights, Kans.; Beaumont, Houston, Fort Worth, Big Spring, Odessa, Pyote, Pampa, Borger, Mexia, Luling, Wichita Falls, Grand Saline, Hebbronville, Pettus, Beeville, Tex.; Lake Charles, Shreveport, Zwolle, La.; Smackover, El Dorado, Ark.; Hobbs, N. M.

Export Offices:
New York, N. Y.; Columbus, Ohio; Houston, Tex.; Los Angeles, Calif.

Foreign Offices:
Maracaibo, Venezuela; Buenos Aires, Argentina; London, England.

International Harvester Co. of America, Inc.,
606 S. Michigan Ave.,
Chicago, Ill.

Branches:
Aberdeen, S. D.; Akron, Ohio; Albany, N. Y.; Altoona, Pa.; Amarillo, Tex.; Atlanta, Ga.; Auburn, N. Y.; Aurora, Ill.; Baltimore, Md.; Billings, Mont.; Binghamton, N. Y.; Birmingham, Ala.; Bismarck, N. D.; Boston, Mass.; Bronx, N. Y.; Brooklyn, N. Y.; Buffalo, N. Y.; Burlington, Vt.; Cairo, Ill.; Camden, N. J.; Cedar Falls, Iowa; Cedar Rapids, Iowa; Charlotte, N. C.; Chattanooga, Tenn.; Cheyenne, Wyo.; Chicago, Ill. (3); Chicago Heights, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Columbia, S. C.; Columbus, Ohio; Council Bluffs, Iowa; Dallas, Tex.; Davenport, Iowa; Dayton, Ohio; Decatur, Ill.; Denver, Colo.; Des Moines, Iowa; Detroit, Mich.; Dodge City, Kans.; Dubuque, Iowa; Duluth, Minn.; East St. Louis, Ill.; Eau Claire, Wis.; El Centro, Calif.; Elizabeth, N. J.; Elmira, N. Y.; El Paso, Tex.; Erie, Pa.; Evansville, Ind.; Fargo, N. D.; Fort Dodge, Iowa; Fort Wayne, Ind.; Fort Worth, Tex.; Gary, Ind.; Grand Forks, N. D.; Grand Island, Nebr.; Grand Rapids, Mich.; Great Falls, Mont.; Green Bay, Wis.; Greensboro, N. C.; Hamilton, Ohio; Hammond, Ind.; Harrisburg, Pa.; Houston, Tex.; Hutchinson, Kans.; Indianapolis, Ind.; Jackson, Mich.; Jacksonville, Fla.; Jersey City, N. J.; Joliet, Ill.; Kankakee, Ill.; Kansas City, Mo.; Kenosha, Wis.; Knoxville, Tenn.; Lexington, Ky.; Lincoln, Nebr.; Little Rock, Ark.; Long Island City, N. Y.; Los Angeles, Calif.; Louisville, Ky.; Madison, Wis.; Mankato, Minn.; Mason City, Iowa; Memphis, Tenn.; Miami, Fla.; Milwaukee, Wis.; Minneapolis, Minn.; Minot, N. D.; Montgomery, Ala.; Mount Vernon, N. Y.; Nashville, Tenn.; Newark, N. J.; New Orleans, La.; New York, N. Y.; Oakland, Calif.; Ogdensburg, N. Y.; Oklahoma City, Okla.; Omaha, Nebr.; Parkersburg, W. Va.; Parsons, Kans.; Paterson, N. J.; Peoria, Ill.; Philadelphia, Pa. (2); Pittsburgh, Pa.; Portland, Me.; Portland, Ore.; Providence, R. I.; Quincy, Ill.; Racine, Wis.; Richmond, Ind.; Richmond, Va.; Rochester, N. Y.; Rockford, Ill.; Saginaw, Mich.; St. Cloud, Minn.; St. Joseph, Mo.; St. Louis, Mo. (3); Salina, Kans.; Salt Lake City, Utah; San Antonio, Tex.; San Diego, Calif.; San Francisco, Calif.; Savannah, Ga.; Schenectady, N. Y.; Scranton, Pa.; Seattle, Wash.; Shreveport, La.; Sioux City, Iowa; Sioux Falls, S. D.; South Bend, Ind.; Spokane, Wash.; Springfield, Ill.; Springfield, Mass.; Springfield, Mo.; Springfield, Ohio, Sweetwater, Tex.; Syracuse, N. Y.; Tacoma, Wash.; Terre Haute, Ind.; Toledo, Ohio; Topeka, Kans.; Tulsa, Okla.; Utica, N. Y.; Washington, D. C.; Waterloo, Iowa; Watertown, N. Y.; Watertown, S. D.; West Haven, Conn.; Wichita, Kans.; Wilkes-Barre, Pa.; Williamsport, Pa.; Williston, N. D.; Wilmington, Del.; Winona, Minn.; Winston-Salem, N. C.; Youngstown, Ohio.

Distributors:
J. D. Adams & Co., Indianapolis, Ind.; Browning Ferris Machy. Co., Dallas, Austin, Houston and Fort Worth, Tex.; Concrete Machy. & Supply Co., Los Angeles, Calif.; Cuyahoga Equipment Co., Cleveland, Ohio; Industrial Machy. Co., Kansas City, Mo.; H. W. Moore Equipment Co., Denver, Colo.; Option Equipment & Supply Co., Pittsburgh, Pa.; Resistcor Engineering Corp., Tulsa, Okla.; McCormick-Deering.

International Harvester Co. of Canada, Ltd.

Branches:
Brandon, Man.; Calgary, Alta.; Edmonton, Alta.; Hamilton, Ont.; Lethbridge, Alta.; London, Ont.; Montreal, Que.; No. Battleford, Sask.; Ottawa, Ont.; Quebec, Que.; Regina, Sask.; Saskatoon, Sask.; Swift Current, Sask.; St. John, N. B.; Toronto, Ont.; Vancouver, B. C.; Weyburn, Sask.; Winnipeg, Man.; Yorkton, Sask.

Export Offices:
International Harvester Co. Argentina, Calle Chile 801, Buenos Aires, Argentina, S. A.; Casa R. J. Jones & Co., S. A. Calle 10, Nos. 184 and 186 Bogota, Colombia, S. A.; Barranquilla, Colombia, S. A.; Cali, Colombia, S. A.; Girardot, Colombia, S. A.; Honda, Colombia, S. A.; Medellin, Colombia, S. A.; Edo. & Anto. Santana A., Sucs Apartado 284, Camejo a Colon No. 10, Caracas, Venezuela, S. A.; E. Q. Brittenham, 13 Rue d' Arenberg, Bruxelles, Belgium; International Harvester Corp., Bulevardul, Carol, 4, Bucuresti, Rumania; Juan S. Mendoza & Co., Esta 6, No. 8 Caracas, Venezuela, S. A.; Cia Nnonima de Automobiles, Sucesora de Sosa, Altuna Cia., Caracas, Venezuela, S. A.

International Nickel Co., Inc.,
67 Wall St., New York, N. Y.

Distributors:
Eagle Brass Foundry Co., 21 Spokane St., Seattle, Wash.; Equitable Equipment Co., 410 Camp St., New Orleans, La.; Harrisburg Supply Co., 303 E. Second St., Tulsa, Okla.; Hendrie & Bolthoff Mfg. & Supply Co., 1621 Seventeenth St., Denver, Colo.; Pacific Foundry Co., Ltd., 3100 Nineteenth St., San Francisco, Calif.; Steel Sales Corp., 129 S. Jefferson St., Chicago, Ill.; J. M. Tull Rubber & Supply Co., 285 Marietta St., Atlanta, Ga.; Whitehead Metal Products Co. of New York, 67 Washington St., Boston, Mass.; Williams & Co., Inc., 901 Pennsylvania Ave., Pittsburgh, Pa.

Foreign Offices:
Robert W. Bartram, Montreal, Quebec, Canada; Peckover's, Ltd., 77 Front St., E. Toronto, Ontario, Canada; Wilkinson Co., Ltd., Vancouver, British Columbia, Canada.

International Supply Co.,
805 E. Archer, Tulsa, Okla.

Stores:
Lovell, Maud, Oklahoma City, Earlsboro, Seminole and Wewoka, Okla.; Wichita, Winfield and McPherson, Kans.; Artesia and Hobbs, N. M.; Borger, Pampa, Pyote and Wink, Tex.

Manufacturers Represented:
American Steel & Wire Co. (wire rope); Darling Valve & Mfg. Co. (valves); Graton & Knight Co. (belting, hose, packing); Hughes Tool Co. (rotary rock bits, tool joints, valves); Jefferson Union Co. (unions); Kewanee Boiler Co. (boilers); Oklahoma Iron Works (rotary and cable tools, rig irons, production equipment); Ohio Injector Co. (valves); William Powell Co. (valves); Stanley G. Flagg & Co. (pipe fittings); Titusville Iron Works Co. (gas engines, rotary equipment); Tubbs Cordage Co. (manila cordage); Youngstown Sheet & Tube Co. (tubular products); Gardner-Denver Co. (pumps, compressors); S. M. Jones Co., (sucker rods); Reading Iron Co. (wrought iron tubular goods); Burt Corp. (Burt swabs); Guiberson Corp. (oil field specialties).

J

Jackson Engineering Corp.,
801 E. Archer St., Tulsa, Okla.

Branches:
Dallas, Tex.; New York, N. Y.; Los Angeles, Calif.; Tulsa, Okla.

Manufacturers Represented:
Fluor Corp., Ltd. (cooling towers); Heat Transfer Products, Inc. (heat exchangers); Strong-Scott Mfg. Co. ("Unipulro" unit pulverizers for utilization of petroleum coke, coal or lignite for boiler fuel).

Jacobson Commissary Co.,
105 W. Monroe St., Chicago, Ill.

Branches:
New York, N. Y.; Jacksonville, Fla.; Pittsburgh, Pa.; Cleveland, Ohio; Boston, Mass.

Jarecki Mfg. Co.,
Erie, Pa.

Branches:
General offices, Chemical Building, St. Louis, Mo. Stores located in all principal points in oil country in following states: Oklahoma, Kansas, Texas, Illinois, Indiana, Ohio, Pennsylvania, Kentucky, Michigan, West Virginia.

Manufacturers Represented:
Jones & Laughlin Steel Corp. (tubular goods); Union Wire Rope Corp. (wire rope); S. M. Jones Co. (sucker rods); A. M. Byers Co. (iron pipe).

Jenkins Brothers,
80 White St., New York, N. Y.

Branches:
Boston, Mass.; Philadelphia, Pa.; Chicago, Ill.; Houston, Tex.

Distributors:
Hardware and supply houses throughout the world.

Export Offices:
Jenkins Brothers, Ltd., 617 St. Remi St., Montreal, Canada; Jenkins Brothers, Ltd., 6 Great Queen St., London, England.

Jerguson Gage & Valve Co.,
Mystic Ave. and Northern Artery, Somerville, Mass.

Distributors:
Numerous supply companies, jobbers and distributors have handled our equipment; none exclusively. We will sell through any.

Export Offices:
We do not export direct, but through manufacturers of boilers and other apparatus, of which our gauges and valves are accessory equipment.

Jones & Laughlin Steel Corp., Jones & Laughlin Building, Pittsburgh, Pa.

Branches:
Atlanta, Ga.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; Erie, Pa.; Los Angeles, Calif.; Memphis, Tenn.; Milwaukee, Wis.; Minneapolis, Minn.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; San Francisco, Calif.; Washington, D. C.

Distributors:
Frick-Reid Supply Corp. (all branches), Jarecki Mfg. Co. (all branches), Norvell-Wilder Supply Co. (all branches).

K

Kaw Steel Construction Co.,
First and Walker Sts.,
Kansas City, Kans.

M. W. Kellogg Co.,
225 Broadway, New York, N. Y.

Branches:
Tulsa, Okla.; Los Angeles, Calif.

Distributors:
Representatives of Piping and Pressure Vessel Department: R. L. Sheraton, 12 Pearl St., Boston, Mass.; M. F. Murphy, Jr., 310 McKinley Ave., Kenmore, Buffalo, N. Y.; D. H. Skeen & Co., 1 LaSalle St., Chicago, Ill.; J. Roy Tanner, Oliver Bldg., Pittsburgh, Pa.; Shook & Fletcher Supply Co., Brown-Marx Bldg., Birmingham, Ala. Chimney Department Representatives Paul B. Huyette Co., 5 S. Eighteenth St., Philadelphia, Pa.; P. I. Perkins Co., 376 Dorchester Ave., South Boston, Mass.; Craun-Liebing Co., 30 Euclid Arcade Annex, Cleveland, Ohio; Kilner-Mills Co., 3-266 General Motors Bldg., Detroit, Mich.; T. E. Nott, 122 Brevard Court, Charlotte, N. C.; Frank W. Hoyt, Markle Bank Bldg., Hazelton, Pa.; Shultz & James, Inc., 7 N. Sixth St., Richmond, Va.; Hauer Power Equipment Co., Union Trust Bldg., Cincinnati, Ohio; United Equipment Co., Union Trust Bldg., Pittsburgh, Pa.; Himelbau, Agazim & Co., 30 N. Dearborn St., Chicago, Ill.

Export Offices:
M. W. Kellogg Co., 225 Broadway, New York, N. Y. Representatives of Petroleum Division: Perrins, Ltd., 3 Central Bldg., Westminster, London, S. W. 1, England; Compagnie Technique des Petroles, 44 Rue de Lisbonne, Paris, France; Arthur S. Leitch Co., 1123 Bay St., Toronto, Ontario; Mechanical Equipment Co., University Tower, 660 St. Catherine St. West, Montreal, P. Q.

Kennedy Valve Mfg. Co.,
Elmira, N. Y.

Branches:
New York, N. Y.; Chicago, Ill.; San Francisco, Calif.

Kerotest Mfg. Co.,
2525 Liberty Ave.,
Pittsburgh, Pa.

Distributors:
Oil Well Supply Co. Kerotest products sold by all branches throughout the world and carried in domestic stocks in all stores in California, Oklahoma, Texas, Louisiana, Kansas, Wyoming and Michigan. Norvell-Wilder Supply Co. Stocks carried at Houston, Tex.; Beaumont, Tex.; Shreveport, La.; and Fort Worth, Tex.

Export Offices:
Oil Well Supply Co., New York, N. Y.; London, England; Maracaibo, Venezuela; Buenos Aires, Argentina; Tampico. Mexico; Ploesti, Rumania; Calgary, Alberta, Canada.

Key Boiler Equipment Co.,
Box 494, E. St. Louis, Ill.

Branches:
New York, N. Y.; Tulsa, Okla.; Los Angeles, Calif.; Chicago, Ill.

Distributors:
Continental Supply Co. stores, National Supply Co. stores, Atlas Supply Co. stores, International Supply Co. stores, Republic Supply Co., Jarecki Mfg. Co., Nolan Supply Co. (Handle sealing compounds only.)

Kingham Trailer Co., Inc.,
Louisville, Ky.

Distributors:
Universal Tractor & Equipment Co., Atlanta, Ga., Richmond, Va., Jacksonville, Fla., Kansas City, Mo.; Dealers Equipment Co., Oklahoma City, Okla., Memphis, Tenn.; Monarch Equipment Co., St. Louis, Mo.; Monarch Sales Co., Cincinnati, Ohio; New Orleans Equipment Co., New Orleans, La.; Bull Stewart Equipment Co., Houston, Tex., Dallas, Tex.; San Antonio Body Co., San Antonio, Tex.; Motor Equipment Co., St. Paul, Minn.; T. W. Meiklejohn, Fond Du Lac, Wis.; William Ford Tractor Sales Co., Dearborn, Mich.; Hooper Equipment Co., Indianapolis, Ind.; Truck Tractor Equipment Co., Columbus, Ohio; Badger Body Mfg. Co., Omaha, Neb.; G. M. Stull Co., Chester, Pa.; B. Hayman Co., Inc., Los Angeles, Calif.; Allied Truck Equipment Co., Indianapolis, Ind.; Erlinder Piatt Sales Corp., Chicago, Ill.; L. S. Teague Co., Jacksonville, Fla.; Thorne Hawk Body Co., Cleveland, Ohio; H. N. Knight Supply Co., Oklahoma City, Okla.; Tulsa Auto Spring Co., Tulsa, Okla.; Fox Sales Co., Minneapolis, Minn.; General Motors Truck Co. of Louisiana, Shreveport, La.; Springfield Commercial Body Co., Cambridge, Mass.; Hercules Charleston Co., Charleston, W. Va.; Armstrong Tool & Equipment Co., Spokane, Wash.; Industrial Tractor & Equipment Co., Richmond, Va.; C. A. Austin, Youngstown, Ohio; Leland Equipment Co., Tulsa, Okla.; Monarch Equipment Co., Louisville, Ky.; Motor Power Equipment Co., Des Moines, Iowa; Smith-Moore Vehicle Co., Richmond, Va.; O. J. Watson Dist. & Storage Co., Wichita, Kans.; Wolfe Bodies, Inc., Detroit, Mich.; Hunter Machinery Co., Milwaukee, Wis.; Service Supply Corp., Philadelphia, Pa.

Export Offices:
Maclin Universal Motor Co., Calgary, Alberta, Canada; C. O. Monat & Co., Montreal, Quebec, Canada; Truck Tractor & Equipment Co., Toronto, Ontario, Canada.

Kirk-Morrow Iron Works Co.,
Iola, Kans.

Branches:
Tulsa, Okla.; Dallas, Tex.; Wichita, Kans.

Distributors:
Continental Supply Co., Casper, Wyo.; Continental Supply Co., Cody, Wyo.; Continental Supply Co., Rawlins, Wyo.; Continental Supply Co., Okotoks, Alberta, Canada; Southwestern Supply Agency, Luling, Tex.

Kohler Co.,
Kohler, Wis.

Branches:
Atlanta, Ga.; Boston, Mass.; Chicago, Ill.; Detroit, Mich.; Houston, Tex.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Calif.; Milwaukee, Wis.; Minneapolis, Minn.; New York, N. Y.; Omaha, Neb.; Philadelphia, Pa.; Pittsburgh, Pa.; Richmond, Va.; St. Louis, Mo.; San Francisco, Calif.; Seattle, Wash.

L

Lacy Mfg. Co.,
(Formerly Strong Oil Tool Co.)
1600 N. Main,
Los Angeles, Calif.

Landis Machine Co., Inc.,
S. Church St. at Fifth,
Waynesboro, Pa.

Branches:
Detroit, Mich.; Cleveland, Ohio; Ontario, Canada.

Distributors:
Colcord - Wright Machinery & Supply Co., St. Louis, Mo.; D. S. Mair Machinery Corp., Houston and Dallas, Tex.; Woodward, Wight & Co., New Orleans, La.; Herberts Machinery Co., Ltd., Los Angeles, Calif.; Herberts-Moore Machinery Co., San Francisco, Calif.; Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo.

Export Offices:
Agents in all principal cities of the world.

Larkin & Co.,
Butler, Pa.

Distributors:
National Supply Co. (all branches); Frick-Reid Supply Corp. (all branches); Bradford Supply Co. (all branches).

Larkin Packer Co.,
6200 Maple Ave., St. Louis, Mo.

Branches:
Tulsa, Okla.; Oklahoma City, Okla.

Distributors:
Atlas Supply Co. (all stores), Bovaird Supply Co. (all stores), Continental Supply Co. (all stores), Frick-Reid Supply Corp. (all stores), International Supply Co. (all stores), Jarecki Mfg. Co. (all stores), National Supply Co. (all stores), Oil Well Supply Co. (all stores), Republic Supply Co. (all stores), Republic Supply Co. of California (all stores).

Export Offices:
Continental Emsco Co., Lucey Products Corp., National Supply Co.

Layne & Bowler Co.,
613 Second National Bank Bldg., Houston, Tex.

Branches:
Memphis, Tenn.; Los Angeles, Calif.

Distributors:
All supply companies throughout the world.

Export Office:
Layne New York Co., 30 Church St., New York, N. Y.

Leader Iron Works,
Decatur, Ill.

Branches:
St. Louis, Mo.; Chicago, Ill.;

LeBus Rotary Tool Works,
301-307 N. Main St.,
Electra, Tex.

Export Office:
Acme Well Supply Co., 136 Liberty St., New York, N. Y.

Lees-Bradner Co.,
6210 Carnegie Ave.,
Cleveland, Ohio.

Representatives:
C. B. Hale, Chicago, Ill.; Charles H. Eden, Los Angeles, Calif.; T. E. Lord, Detroit, Mich.

Export Offices:
H. T. Bradner, sole agent for the Lees-Bradner Co., 50 Hazlitt House, Southampton Buildings, Chancery Lane, London, W. C. 2, England; Buehling & Baker, Stresemannstrasse 64 Berlin, S. W. 11, Germany; R. S. Stokvis et Fils, 20-22 Rue Des Petits Hotels. Paris, France.

Henry L. Lemons,
Philtower Bldg., Tulsa, Okla.

Leonard Construction Co.,
37 S. Wabash Ave., Chicago, Ill.

A. Leschen & Sons Rope Co.,
5909 Kennerly Ave.,
St. Louis, Mo.

Branches:
New York, N. Y.; Chicago, Ill.; Denver, Colo.; San Francisco, Calif.

Distributors:
Oil Well Supply Co. (all branches).

Geo. B. Limbert & Co.,
570 Fulton St., Chicago, Ill.

Lincoln Electric Co.,
12818 Colt Road,
Cleveland, Ohio.

Branches:
Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Columbus, Ohio; Detroit, Mich.; Fort Wayne, Ind.; Grand Rapids, Mich.; Houston, Tex.; Indianapolis, Ind.; Kansas City, Mo.; Lancaster, Pa.; Los Angeles, Calif.; Milwaukee, Wis.; Minneapolis, Minn.; New York, N. Y.; Oil City, Pa.; Philadelphia, Pa.; Pittsburgh, Pa.; Rock Island, Ill.; Saginaw, Mich.; San Francisco, Calif.; Syracuse, N. Y.; Toledo, Ohio.

Distributors:
F. F. Duggan, 617 Second National Bank Bldg., Akron, Ohio; E. A. Thornwell, Candler Bldg., Atlanta, Ga.; Motor Repair & Supply Co., 2900 Broadway, Denver, Colo.; H. I. Skilton, Tejadillo No. 1, Havana, Cuba; Lincoln Electric Co. of Canada, 20 St. Nicholas St., Montreal, Quebec, Canada; Arthur C. Morse Co., 99 Water St., New Haven, Conn.; Woodward Wight & Co., New Orleans, La.; Clyde Equipment Co., 555 Thurman St., Portland, Ore.; Hill Equipment Engineering Co., 4620 Delmar Blvd., St. Louis, Mo.; Harry G. Murphy Sales Co., 316 Union National Bank Bldg., Scranton, Pa.; Clyde Equipment Co., 3410 First Ave., South, Seattle, Wash.; Gallgher Co., 228 S. W. Temple St., Salt Lake City, Utah; Lincoln Electric Co. of Canada, 65 Bellwoods Ave., Toronto, Ontario, Canada; Big Three Welding & Equipment Co., 1701 E. Presidio St., Fort Worth, Tex.; Big Three Welding & Equipment Co., 1 Main St. Viaduct, Houston, Tex.; Big Three Welding & Equipment Co., 8 N. Cheyenne St., Tulsa, Okla.; A. H. Peir Co., 812 Mateo St., Los Angeles, Calif.
Export Offices:
Gough, Gough & Hamer, Ltd., Box 634, Christchurch, New Zealand; Edison Swan Electric Co., Ltd., 368 Little Collins St., Melbourne, Australia; T. Y. Inagaky & Co., 3 Nakadori, Marunouchi, Tokyo, Japan.

Linde Air Products Co., (Unit of Union Carbide & Carbon Corp.)
30 E. Forty-second St., New York, N. Y.
Branches:
Atlanta, Ga.; Baltimore, Md.; Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Denver, Colo.; Detroit, Mich.; El Paso, Tex.; Houston, Tex.; Kansas City, Mo.; Los Angeles, Calif.; Memphis, Tenn.; Milwaukee, Wis.; Minneapolis, Minn.; New Orleans, La.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; Salt Lake City, Utah; San Francisco, Calif.; Seattle, Wash.; Tulsa, Okla.
Export Office:
30 E. Forty-second St., New York, N. Y.

Link-Belt Co.,
200 S. Belmont Ave., Indianapolis, Ind.
Branches:
Chicago, Ill.; Philadelphia, Pa.; San Francisco, Calif.; Atlanta, Ga.; Baltimore, Md.; Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; Grand Rapids, Mich.; Kansas City, Mo.; Los Angeles, Calif.; Louisville, Ky.; Milwaukee, Wis.; New Orleans, La.; New York, N. Y.; Oakland, Calif.; Pittsburgh, Pa.; Portland, Ore.; Seattle, Wash.; St. Louis, Mo.; Wilkes-Barre, Pa.; Toronto, Montreal and Vancouver, Canada.
Distributors:
Boysird Supply Co., Tulsa, Okla.; Bridgeport Machine Co., Wichita, Kans.; Murray Tool & Supply Co., Oklahoma City, Okla.; Oil Well Supply Co., Oil City, Pa.; Parkersburg Rig & Reel Co., Parkersburg, W. Va.; Wilson Supply Co., Houston, Tex.
Export Offices:
Link-Belt Co., New York, N. Y.; Oil Well Supply Co., New York, N. Y.

Littleford Brothers,
502 E. Pearl St., Cincinnati, Ohio.
Distributors:
Victor L. Phillips, Kansas City, Mo.; Tulsa, Okla.; Wichita, Kans.; Oklahoma City, Okla. Browning-Ferris Mchy. Co., Houston, Tex.; Dallas, Tex.; Amarillo, Tex.; Fort Worth, Tex.; San Antonio, Tex.

E. J. Longyear Mfg. Co.,
1701 Foshay Tower, Minneapolis, Minn.
Branches:
Marquette, Mich.; Ponca City, Okla.
Foreign:
Haileybury, Ontario, Canada.

Lucey Products Corp.,
234 E. Brady St., Tulsa, Okla.
Branches:
Houston, Tex.; Oklahoma City, Okla.; Pettus, Tex.; Maud, Okla.; Shreveport, La.; Duncan, Okla.; Los Angeles, Calif.
Export Offices:
2505 Woolworth Bldg., New York, N. Y.; 54 Old Broad St., E. C. 2, London, England; 55 Rue de Rivoli (1er), Paris, France; Ploesti, Rumania; Diagonal Roque Saenz Pena No. 501, Buenos Aires, Argentina; San Fernando, Trinidad, B. W. I.

Ludlow Valve Mfg. Co.,
Foot of Adams St., Troy, N. Y.
Branches:
New York, N. Y.; Chicago, Ill.; Pittsburgh, Pa.; Philadelphia, Pa.; Boston, Mass.; Kansas City, Mo.
Distributors:
Mid-Continent Supply Co., Fort Worth, Tex., with branch warehouses in Houston and Tulsa, also carry a very complete stock.
Export Office:
Troy, N. Y.

Lufkin Foundry & Machine Co., Lufkin, Tex.
Branches:
Houston, Tex.; Tulsa, Okla.; Los Angeles, Calif.; Odessa, Tex.; Seminole, Okla.; El Dorado, Ark.; Bakersfield, Calif.; New York, N. Y.
Export Office:
Lufkin Foundry & Machine Co., 556 Fifth Ave., New York, N. Y.

Lufkin Rule Co., Hess and Prescott Sts., Saginaw, Mich.
Branch:
New York, N. Y.
Distributors:
Goods distributed through jobbing hardware and supply houses throughout United States and Canada.
Export Offices:
Lufkin Rule Co. of Canada, Ltd., Windsor, Ontario, Canada; John H. Graham & Co., Inc., offices at: 113 Chambers St., New York, N. Y.; 61 Shoe Lane, London E. C. 4, England; 81 Rue du Progres, Brussels, Belgium; Amaliegade 41, Copenhagen, Denmark; 352 Kent St., Sydney, N.S.W., Australia; 185 Herefore St., Christchurch, New Zealand; Guinee Building, Rio de Janeiro, Brazil; 560 Ave. de Mayo, Buenos Aires, Argentina. Douge & Seymour, Ltd., offices at: 53 Park Place, New York, N. Y.; Shanghai and Hongkong, China; Harbin, Manchuria and Osaka, Japan; Singapore, Straits Settlements; Weltevreden, Java, Dutch East Indies; Bangkok, Siam; Manila, Philippine Islands; Calcutta, Bombay, Dehli, Madras, Lahore and Karachi, India; Rangoon, Burma; Colombo, Ceylon; Capetown, Johannesburg and Durban, South Africa.

Walter E. Lummus Co.,
148 State St., Boston, Mass.
Branch:
New York, N. Y.

Lunkenheimer Co., Cincinnati, Ohio.
Branches:
Boston, Mass.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; San Francisco, Calif.
Export Office:
318-22 Hudson St., New York, N. Y.

Mc

McAlear Mfg. Co.,
1901-7 S. Western Ave., Chicago, Ill.
Distributors:
B. V. Emery & Co., 216 E. Brady St., Tulsa, Okla. (stock maintained here); William J. Hearn, 1170 Broadway, New York, N. Y.; Coblentz Equipment Co., 1119 Peach St., Erie, Pa.; Greene Bros., 620 Ohio Ave., Wichita Falls, Tex.; John G. Bell Co., 712 E. Sixth St., Los Angeles, Calif. (stock maintained).
Export Offices:
Industrial Instruments, Pty. Ltd., Melbourne, Australia; Walker Crossweiler Co., London, England; Nishikawa Co., Manchuria, China; G. K. Kenzaisha, Tokyo, Japan; Durant-Irvine Co., Honolulu, Hawaii.

McClintic-Marshall Co., Oliver Bldg., Pittsburgh, Pa.
Branches:
New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; Cincinnati, Ohio; Cleveland, Ohio; Charlotte, N. C.; St. Louis, Mo.; Buffalo, N. Y.; Los Angeles, Calif.; San Francisco, Calif.
Export Office:
29 Broadway, New York, N. Y.

McCord Radiator & Mfg. Co., 2587 E. Grand Blvd., Detroit, Mich.
Distributors:
National Supply Co., Neilan Co., Ltd.

McEverlast, Inc., 1110 Board of Trade Bldg., Los Angeles, Calif.
Branches:
New York, N. Y.; Chicago, Ill.; Kansas City, Mo.; San Francisco, Calif.
Distributors.
McEverlast Distributors, Inc., 518 Heard Bldg., Phoenix, Ariz.
Export Office:
Theo H. Davies, Inc., Honolulu, Hawaii; Manila, Philippine Islands.

J. H. McEvoy & Co., 600 Milby St., Houston, Tex.
Branches:
Los Angeles, Calif.
Distributors:
International Supply Co., Oklahoma City, Okla., Hobbs, N. Mex.; Frick-Reid Supply Corp., Oklahoma City, Okla.; Hobbs, N. Mex.; Pettus, Tex.; Continental Supply Co., Houston, Tex.; Refugio, Tex.; Hercules Supply Co., Pettus, Tex.; Wink, Tex.; Dunigan Supply Co., Hobbs, N. Mex.; Houston Oil Field Material Co., Refugio, Tex.; Houston, Tex.; Reublic Supply Co., Pettus, Tex.
Export Offices:
Lucey Products Corp., New York, N. Y.; National Supply Co., New York, N. Y.; Oil Well Supply Co., New York, N. Y.; Continental Supply Co., New York, N. Y.; Oilfield Equipment Co., New York, N. Y.

A. J. McEwan & Co., Inc., Box 137, Whittier Station, Tulsa, Okla.

McIntosh & Seymour Corp., Auburn, N. Y.
Branches:
New York, N. Y.; Kansas City, Mo.; Jacksonville, Fla.; Houston, Tex.; San Francisco, Calif.

Arthur G. McKee & Co., 2432 Euclid Ave., Cleveland, Ohio.
Export Office:
Arthur G. McKee & Co., Messrs. Atwater and Moore, Representatives, 820 Bush House, Aldwych, W. C. 2, London, England.

M

MacClatchie Mfg. Co., Alameda and Euclid Sts., Compton, Calif.
Branches:
Houston, Tex.; Ventura, Calif.; Bakersfield, Calif.
Distributors:
Continental Supply Co., all branches; and MacClatchie products are stocked or sold by all other leading supply houses.
Export Office:
All leading supply houses' exporting branches.

Macwhyte Co., 2906 Fourteenth Ave., Kenosha, Wis.
Branches:
New York, N. Y.; Pittsburgh, Pa.; Chicago, Ill.; Tulsa, Okla.; Portland, Ore.
Distributors:
California Machinery & Supply Co., 2449 Hunter St., Los Angeles, Calif. (all branches); Bradford Tool & Supply Co., Bradford, Pa. (all branches); Dunigan Tool & Supply Co., Breckenridge, Tex. (all branches); Western Supply Co., Tulsa, Okla. (all branches); Federal Supply & Machine Co., Winfield, Kans. (all branches); Drillers Supply Co., Eureka, Kans. (all branches); Drillers Supply Co., Joplin, Mo.; United Pipe & Supply Co., Charleston, W. Va. (all branches); Acme Fishing Tool Co., Parkersburg, W. Va.; Washington Mould Machine & Foundry Co., Washington, Pa.; El Dorado Foundry Machine & Supply Co., El Dorado, Ark. (all branches); Superior Iron Works, Inc., Shreveport, La. (all branches).
Export Office:
Export Department at factory, Kenosha, Wis.

Magnolia Petroleum Co., Box 900, Dallas, Tex.
Division Offices:
Fort Worth, Tex.; Houston, Tex.; San Antonio, Tex.; Amarillo, Tex.; El Paso, Tex.; Little Rock, Ark.; Oklahoma City, Okla.

D. S. Mair Machinery Corp., 505 Esperson Bldg., Houston, Tex.
Branches:
Dallas, Tex.
Manufacturers Represented:
Joseph T. Ryerson & Son., Inc., Chicago, Ill.; Niles Tool Works Co., Hamilton, Ohio; Landis Machine Co., Waynesboro, Pa.; Whiting Corp., Harvey, Ill.; Swenson Evaporator Co., Harvey, Ill.; Swenson Standard and Forced Circulation Evaporators.

Maloney Tank Mfg. Co., Tulsa, Okla.
Branches:
Factory and General Office, Tulsa, Okla.
Distributors:
Maloney Sales Corp., Tulsa, Okla.; Seminole, Okla.; Oklahoma City, Okla.; Borger, Tex.; Pampa, Tex.; National Supply Co., Toledo, Ohio; Denver, Colo.; Florence, Colo.; Casper, Wyo.; Cody, Wyo.; Conrad, Mont.; Kevin, Mont.; Calgary, Alberta, Canada; Perdue Sander Tank Co., McPherson, Kans.; Madison, Kans.; Peer Bolted Steel Tank Co., Houston, Tex.; Sulphur, Tex.; Ira N. Ellis Tank Co., Fort Worth, Tex.; Pyote, Tex.; Pettus, Tex.; Luling, Tex.; Beeville, Tex.; El Dorado, Ark.; Smackover, Ark.; Hobbs, N. Mex.; H. C. Nelson, Muskegon, Mich.
Export Offices:
National Supply Co., New York, N. Y.; Rose, Lloyd & Co., London, England; J. Z. Horter Co., Havana, Cuba; Hughes & Co., New York, N. Y.

Marion Machine, Foundry & Supply Co., Box 685, Marion, Ind.
Branches:
Tulsa, Okla.; McPherson, Kans.; Okemah, Okla.; Duncan, Okla.; Tonkawa, Okla.; Oklahoma City, Okla.; Wilson, Okla.; Drumright, Okla.; Big Spring, Tex.; Breckenridge, Tex.; Electra, Tex.; Coleman, Tex.; El Dorado, Ark.; Luling, Tex.; Pecos, Tex.; Ranger, Tex.; Pampa, Tex.; Scottdale, Pa.; Billings, Mont.; Kevin, Mont.; Salt Creek, Wyo.; Cody, Wyo.; Long Beach, Calif.
Export Office:
Marion Machine, Foundry & Supply Co., 458 Hudson Terminal Bldg., 50 Church St., New York, N. Y.

Marley Co., 1737 Walnut St., Kansas City, Mo.

Marsh Gauge Pole Co., Inc., 312 W. Central Ave., Titusville, Pa.
Distributors:
Continental Supply Co., Tulsa, Okla. (all branches); National Supply Co., Toledo, Ohio (all branches); Bradford Supply Co., Bradford, Pa. (all branches); Butler Mfg. Co., Butler, Pa. (all branches); Amco Sales Corp., Chicago, Ill. (all branches); American Steel Works, Kansas City, Mo. (all branches); K-M Supply Co., Kansas City, Mo. (all branches); Keystone Pipe & Supply Co., Butler, Pa. (all branches); National Transit Co., Oil City, Pa. (all branches); Phoenix Fuel Supply Co., New York, N. Y. (all branches).

Martin-Decker Corp., 3431 Cherry Ave., Long Beach, Calif.
Distributors:
Equipment handled by all Oil Well Supply Companies.
Export Offices:
Handled through all Supply Companies' Export Departments.

Mason Regulator Co., 1190 Adams St., Dorchester Center, Boston, Mass.
Branch:
San Francisco, Calif.
Export Offices:
H. P. Gregory & Co., 74 Clarence St., Sydney, Australia; E. Isbecque & Co., 36 Rue Otlet, Brussels, Belgium; Reck Heating Co., Ltd., Vestervolgade, 10, Copenhagen, B., Denmark; Crosby Valve & Engineering Co., Ltd., 41-42 Foley St., London, W., England; Mason Regulator Co., 314 Notre Dame St., West, Montreal, Canada.

Merco Nordstrom Valve Co., 343 Sansome St., San Francisco, Calif.
Branches:
Atlanta, Ga.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Dallas, Tex.; Detroit, Mich.; El Paso, Tex.; Houston, Tex.; Los Angeles, Calif.; New Orleans, La.; New York, N. Y.; Pittsburgh, Pa.; San Francisco, Calif.; St. Louis, Mo.; Belleville, Ohio; Oakland, Calif.
Distributors:
Republic Supply Co., 332 Continental Oil Bldg., Denver, Colo.; Arthur C. Beckert, 112 Durand St., Saginaw, Mich.; National Equipment Co., 101 W. Second South St., Salt Lake City, Utah; Brown, Wilson & Co., 1600 Arch St., Philadelphia, Pa.; B. V. Emery & Co., 216 E. Brady St., Tulsa, Okla.
Export Offices:
General Electric, Victoria 618 Esq. Peru, Buenos Aires, South America; Peacock Brothers, Ltd., The University Tower, 650 St. Catherine St. West, Montreal, Canada; Peacock Brothers, Ltd., 508 Pacific Bldg., 325 Howe St., Vancouver, British Columbia, Canada; Peacock Brothers, Ltd., 62 Albert St., Winnipeg, Manitoba, Canada; Peacock Brothers, Ltd., Post Bldg., Sydney, Nova Scotia, Canada; Peacock Brothers, Ltd., 610 Federal Bldg., Toronto, Canada; Peacock Brothers, Ltd., 912 Lancaster Bldg., Calgary, Alberta, Canada; Audley Engineering Co., Ltd., Newport, Shropshire, England; Audley Engineering Co., Ltd., Finsbury Court, Finsbury Pavement, E. C. 2 London, England; Societe Francaise Des Robinets, "Audley," 29, Rue Malouet, Rouen, France; D. Bottaro & Co., Via Malta N3, Genoa, Italy; Morton Engebretsen, 7, Tordenskjoldsgaten, Oslo, Norway; R. Novelly, 111, Prinz Eugenstrasse 3, Vienna, Austria; Mackechnie, S. A. R., Str. C. A. Rosetti 3, Bucharest, Rumania; A. Nicklaus, Audley Engineering Co., Ltd., 18, Rue D'Arenberg, Brussels, Belgium; Fraser & Chalmers (S.A.) Ltd., P. O. Box 619, Johannesburg, South Africa; James Hurll & Co., Ltd., 115, Pitt St., Sydney, N. S. W.; E. W. Sharpe, c/o J. A. Murphy Co., Perez Semanilio Bldg., Manila, Philippine Islands; W. A. Ramsey Co., Ltd., Fort and Queen Sts., Honolulu, Hawaii.

Meriam Co., 1955 W. One Hundred Twelfth St., Cleveland, Ohio.
Distributors:
Westcott & Greis, Inc., Tulsa, Okla.; Los Angeles, Calif.; Dallas, Tex.; Refinery Supply Co., Tulsa, Okla.; Dallas, Tex.; Continental Supply Co., St. Louis, Mo.; National Supply Co., Toledo, Ohio, and branches; Western Machinery Co., Wichita, Kans.; Greene Brothers, Wichita Falls, Tex.; Provident Engineering Co., New York, N. Y.; Leonard Maleson, 815 Locust St., Philadelphia, Pa.

Metric Metal Works of the American Meter Co., Inc., Tenth and Payne Ave., Erie, Pa.
Branches:
Pittsburgh, Pa.; Kansas City, Mo.; Denver, Colo.; Birmingham, Ala.
Distributors:
Bradford Supply Co., 130 Main St., Bradford, Pa.; Branchland Supply Co., Huntington, W. Va.; Bovaird & Seyfang Mfg. Co., Bradford, Pa.; Burrell Technical Supply Co., 1700-1708 Fifth Ave., Pittsburgh, Pa.; Continental Supply Co., 1501 Locust St., St. Louis, Mo.; Frick-Reid Supply Corp., 103 Wood St., Pittsburgh, Pa.; Hope Engineering Corp., Mount Vernon, Ohio; McJunkin Supply Co., Charleston, W. Va.; Meriam Co., 8405 Detroit Ave., N. W., Cleveland, Ohio; National Supply Co., Toledo, Ohio, and Pittsburgh, Pa.; Oil Well Supply Co., Pittsburgh, Pa.; Bradford, Pa.; Oil City, Pa.; New York, N. Y.; Oil Well Engineering Co., 8-10 Bridge St., New York, N. Y.; Western Gas Construction Co., Fort Wayne, Ind.; Westcott & Greis, Inc., Tulsa, Okla.; Dallas, Tex.; Houston, Tex.; Los Angeles, Calif.

Michigan Valve & Foundry Co., 3631 Parkinson Ave., Detroit, Mich.
Branches:
Chicago, Ill.; Atlanta, Ga.; Cleveland, Ohio; Reading, Pa.; Newark, N. J.; Tulsa, Okla.; New York, N.Y.; Kansas City, Mo.
Distributors:
California Pipe & Supply Co., 2135 Atlantic St., Los Angeles, Calif.; Machinery Pipe & Supply Co., 200 Ninth St., San Diego, Calif.; Heilman-Eyster Engineering Co., 1817 Wakeman St., Toledo, Ohio; Clowe & Cowan, Inc., Amarillo, Tex.
Export Offices:
Sidney H. Knoff Co., Metropolitan Tower, 1 Madison Ave., New York, N. Y.; Jordan-Roberts Sales, Ltd., Brantford, Canada.

Mid-Continent Map Co., 23rd Floor, Exchange Bank Bldg., Tulsa, Okla.
Branches:
Wichita, Kans.; Oklahoma City, Okla.

Midwest Piping & Supply Co., Inc., 1450 S. Second St., St. Louis, Mo.
Branches:
Chicago, Ill.; Houston, Tex.; Los Angeles, Calif.; New York, N. Y.; Tulsa, Okla.
Export Office:
30 Church St., New York, N. Y.

Miller Improved Gas Engine Co., Springfield, Ohio.
Branch:
Tulsa, Okla.
Distributors:
W. S. Smith, 323 N. Cheyenne Ave., Tulsa, Okla.; A. R. Thomas, 4441 Santa Fe St., Los Angeles, Calif.

Miller Sand Pump Co., Box 1178, Sapulpa, Okla.
Distributors:
Sold by all the leading supply houses.

Moon Manufacturing Co., 110-128 N. Jefferson St., Chicago, Ill.
Distributors:
Leading supply stores and their branches. Warehouse stocks carried at Tulsa, Okla.; Oklahoma City, Okla.; Fort Worth, Tex.; Houston, Tex.
Export Offices:
Leading export jobbers, New York, N. Y.

Lee C. Moore & Co., Inc., 624 Oliver Bldg., Pittsburgh, Pa.
Branches:
Tulsa, Okla.; Dallas, Tex.; Houston, Tex.; Wichita Falls, Tex.; Shreveport, La.; Wichita, Kans.; Eldorado, Kans.; Casper, Wyo.
Export Office:
30 Church St., New York, N. Y.

Moorlane Co., Inc., 806 Tulsa Loan Bldg., Tulsa, Okla.
Manufacturers Represented:
Tube-Turns, Inc., tube turns; Taylor Forge & Pipe Works, flanges, forged steel rings; Mason Regulator Co., regulators, back pressure valves, reducing valves and liquid level controls.

I. P. Morris & De La Vergne, Inc., Richmond and Norris Sts., Philadelphia, Pa.
Branches:
Kansas City, Mo.; Houston, Tex.
Export Office:
Richmond & Norris Sts., Philadelphia, Pa.
Moser Mfg. Co., Kane, Pa.
Distributors:
Lucey Products Corp., Tulsa, Okla. (all branches).
Export Offices:
Lucey Products Corp., New York, N. Y.; Standard Oil Co. of New Jersey, New York, N. Y.; Continental-Emsco Co., New York, N. Y.; Acme Well Supply Corp., New York, N. Y.; National Supply Co., New York, N. Y.; Oil Well Supply Co., New York, N. Y.; International Petroleum Co., Ltd., Toronto, Canada.
John Muller Co., Third and Throckmorton St., Fort Worth, Tex.
Branch:
Houston, Tex.
Murray Tool & Supply Co., Cleveland, Okla.
Branches:
Cleveland, Okla.; Oklahoma City, Okla.; Pawhuska, Okla.; Ponca City, Okla.; Seminole, Okla.; Tulsa, Okla.; Yale, Okla.; Wichita Heights, Kans.; Pampa, Tex.; Hobbs, N. Mex.
Manufacturers Represented:
Wilson Snyder Mfg. Co., slush pumps; Byron Jackson, rotary supplies; Pittsburgh Steel Products Co., seamless tubular goods; Doheny-Stone, "Hydril" rotaries; Crane Co., valves and unions; Waterbury Co., Ajax manila cordage; Wheeling Steel Corp., tubular goods; Hughes Tool Co., rotary supplies; Baker Oil Tools Co., rotary supplies; Regan Sales Co., rotary supplies.

N

National Airoil Burner Co., 1327 Girard Ave., Philadelphia, Pa.
National Equipment Corp., Thirty-first St. and Concordia Ave., Milwaukee, Wis.
Branches:
Koehring Division, Thirty-first St. and Concordia Ave., Milwaukee, Wis.; Insley Division, Indianapolis, Ind.; T. L. Smith Division, 1125 Thirty-second St., Milwaukee, Wis.; Parsons Division, Newton, Iowa; C. H. & E. Division, 254 Mineral St., Milwaukee, Wis.; Kwik-Mix Division, Port Washington, Wis.
Distributors:
G. E. Hillsman Co., 904 Builders Bldg., Chicago, Ill.; Clark & Burrows, Inc., 1600 Commerce St., Dallas, Tex.; Francis Wagner Co., 307 San Francisco St., El Paso, Tex.; Northwest Equipment Co., Inc., Great Northern Tracks, Great Falls, Mont.; G. W. Van Keppel Co., 2045 Main St., Kansas City, Mo.; Harron, Rickard & McCone Co., 2205 Santa Fe Ave., Los Angeles, Calif.; Concrete Machinery & Supply Co., 777 E. Merrill Ave., Los Angeles, Calif.; R. E. Brooks Co., 50 Church St., New York, N. Y.; Lewis & Coulter, Inc., 210 Pennsylvania Ave., Pittsburgh, Pa.; Alamo Iron Works, Santa Clara and Montana Sts., San Antonio, Tex.; Leland Equipment Co., Archer and Guthrie Sts., Tulsa, Okla.; Alamo Iron Works, corner Spring and Taylor Sts., Houston, Tex.; Leland Equipment Co., 1321 S. Agnew St., Oklahoma City, Okla.
Export Offices:
Machinery Depot, Tenth Ave. and Tenth St., West, Calgary, Alberta, Canada; F. S. Lapum, Apartado 93 Bis., Mexico, D. F.
National Lead Co., 111 Broadway, New York, N. Y.
Branches:
Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; San Francisco, Calif.; Baltimore, Md.
Distributors:
Throughout the United States.
Export Offices:
111 Broadway, New York, N. Y.; 2240 Twenty-fourth St., San Francisco, Calif.
National Pigments & Chemical Co., 1 Sidney St., St. Louis, Mo.
Branches:
New York, N. Y.
Distributors:
Baroid Sales Co., 837 Jackson St., Los Angeles, Calif.; Peden Co., Houston, Tex.
National Supply Co., 3320 Bishop St., Toledo, Ohio.
Branches:
Tulsa, Okla.; Denver, Colo.; Fort Worth, Tex.; Los Angeles, Calif.; Pittsburgh, Pa. (Stores throughout the oil fields.)
Manufacturers represented:
Ajax Iron Works, (Ideal-Ajax steam drilling engines); Columbian Rope Co., (cordage); Spang-Chalfant & Co., (pipe); Superior Engine Co., (gas, oil, Diesel engines); Broderick Co., (boilers); Reybestos-Manhattan, Inc. (rubber products, brake lining).
Export Offices:
National Supply Corp., 120 Broadway, New York, N. Y.; National Supply Corp., River Plate House, South Place and Finsbury Circus, London, E. C. 2, England; National Supply Co. p., Bulevardul Ferdinand, Baviera Campinei, Ploesti, Rumania; National Supply Co., Ltd., 904 Tenth Ave., W., Calgary, Alberta, Canada.
National Tank Co., Tulsa, Okla.
Branches:
Oklahoma City, Okla.; Seminole, Okla.; Hobbs, N. M.; Van, Tex.
Distributors:
Nowery J. Smith Co., Houston. Refugio and Pettus, Tex.
Export Offices:
National Supply Corp., 120 Broadway, New York, N. Y.; Continental Supply Co., Ltd., St. Louis, Mo.; Calgary, Alberta, Canada; Okotoks, Alberta, Canada.
National Transit Pump & Machine Co., 19 N. Petroleum St., Oil City, Pa.
Branches:
New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; Cleveland, Ohio; Tulsa, Okla.; Houston, Tex.; Los Angeles, Calif.
Distributors:
Frick-Reid Supply Corp., Tulsa, Okla.; Republic Supply Co. of California, Los Angeles, Calif.; F. C. Richmond Machinery Co., Salt Lake City, Utah; E. L. Wilson Hardware Co., Beaumont, Tex.; Pratt-Gilbert Co., Phoenix, Ariz.; Reeves & Skinner Machinery Co., St. Louis, Mo.; Woodward, Wight & Co., New Orleans, La.
National Tube Co., Frick Bldg., Pittsburgh, Pa.
Branches:
Atlanta, Ga.; Boston, Mass.; Chicago, Ill.; Denver, Colo.; Detroit, Mich.; New Orleans, La.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; St. Paul, Minn.; Salt Lake City, Utah; Columbian Steel Co., San Francisco, Calif.; Los Angeles, Calif.; Portland, Ore.; Seattle, Wash.
Distributors:
Peden Co., Houston, Tex.; San Antonio, Tex.; Beaumont, Tex.; Shreveport, La.
Export Offices:
United States Steel Products Co., 30 Church St., New York, N. Y.; United States Steel Products Co., Calle, 25 de Mayo, 489, Buenos Aires, Argentina; United States Steel Products Co., Endeavor House, Sydney, Australia; United States Steel Products Co., 44 Rue de Ligne, Brussels, Belgium; United States Steel Products Co., Edificio "Ely" Porto Alegre, Brazil; United States Steel Products Co., 20 Rua General Camara, Rio de Janeiro, Brazil; United States Steel Products Co., Rua Boa Vista, No. 2, Sao Paulo, Brazil; United States Steel Products Co., 360 St. James St., Montreal, Canada; United States Steel Products Co., Royal Bank Bldg., Toronto, Canada; United States Steel Products Co., 190 Second Ave., W., Vancouver, Canada; United States Steel Products Co., 395 Main St., Winnipeg, Canada; R. C. Grant, Maritime Bldg., New Glasgow, Nova Scotia, Canada; United States Steel Products Co., Edificio del Banco Nacional, Valparaiso, Chile; United States Steel Products Co., No. 1 Canton Road, Shanghai, China; United States Steel Products Co., Edificio "La Metropolitana," Havana, Cuba; United States Steel Products Co., 36 New Broad St., E. C. 2, London, England; Columbian Steel Co., Castle & Cooke Bldg., Honolulu, Hawaii; G. A. Meckes, 18, Bezuidenhout, The Hague, Holland; A. T. Barberini, 12 Via dei Maroniti, Rome, Italy; United States Steel Products Co., 65, Palmenlaan, Soerabaya, Java; United States Steel Products Co., Calla 2a. de Capuchinas No. 30, Mexico City, Mexico; J. F. Mooney, Banco Mercantil de Monterrey Bldg., Monterrey, Mexico; W. H. Plant, Samanillo Bldg., Manila, Philippines; United States Steel Products Co., Edificio Wiese, Lima, Peru; W. B. Hughes, Ochoa Bldg., San Juan, Porto Rico; United States Steel Products Co., Locarno House, Johannesburg, South Africa.
Natural Gas Engineering Corp., Oklahoma Natural Building, Tulsa, Okla.
Naylor Pipe Co., 1230 E. Ninety-second St., Chicago, Ill.
Branches:
New York, N. Y.; Philadelphia, Pa.; Tulsa, Okla.; Fort Worth, Tex.; Houston, Tex.
Distributors:
Champion & Barber, Inc., 506 Subway Terminal Bldg., Los Angeles, Calif.; Naylor Pipe Sales Co., 2301 Commerce St., Houston, Tex.
Export Offices:
Mechanical Equipment Co., 660 St. Catherine St., West, Montreal, Quebec, Canada; C. H. Eistner, Apartado 284, Monterrey, N. L., Mexico; Massy, Ltd., 35 Marine Square, Port-of-Spain, Trinidad, British West Indies; H. A. W. Myrin, San Martin 66, Buenos Aires, Argentina.
Neilan Co., Ltd., 641-651 Santa Fe Ave., Los Angeles, Calif.
Branches:
San Francisco, Calif.; New York, N. Y.; Chicago, Ill.; Dallas, Tex.
Distributors:
C. F. Camp Co., 221 E. Archer St., Tulsa, Okla.; Maintenance Engineering Corp., 1400 Conti St., Houston, Tex.
Export Office:
Patrick H. Heeney, manager, Apartado 298, Maracaibo, Venezuela.
Nitrose Co., Inc., 1500 Peoria Life Bldg., Peoria, Ill.
Distributors:
Day Sales Co., 795 Monadnock Bldg., San Francisco, Calif.; G. W. Elspass, 412 Auditorium Bldg., Cleveland, Ohio; Lee & Clark, Inc., 549 Washington Blvd., Chicago, Ill.; Lew Sales & Engineering Co., 220 Mount Hope Ave., Rochester, N. Y.; Manufacturers Sales & Service Co., Salt Lake City, Utah; D. B. McConnell, 8437 Grand River Ave., Detroit, Mich.; Robinson, Cary & Sands Co., St. Paul, Minn.; Merritt M. Stone Co., 4459 Manchester Ave., St. Louis, Mo.; Uhrich Supply Co., 914 Central St., Kansas City, Mo.; Vincent-Gilson Engineering Co., 30 Church St., New York, N. Y.; Baker Supply Co., 145 Broadway, Cambridge, Mass.
Export Offices:
Roberto Colon, P. O. Box 1545 San Juan, Porto Rico; Philippine Cork & Insulation Co., Manila, Philippine Islands; Beveridge Supply Co., Ltd., Montreal, Quebec, Canada.
Norma-Hoffmann Bearings Corp., Stamford, Conn.
Branches:
New York, N. Y.; Cleveland, Ohio; Pittsburgh, Pa.; Chicago, Ill.; Detroit, Mich.
North American Car Corp., 327 S. LaSalle St., Chicago, Ill.
Branches:
Tulsa, Okla.; Coffeyville, Kans.; Springfield, Mo.; Dallas, Tex.
Northwest Engineering Co., 28 E. Jackson Blvd., Chicago, Ill.
Branches:
San Francisco, Calif.; Des Moines, Iowa.
Distributors:
Connelly Machinery Co., 124 N. Twenty-seventh St., Billings, Mont.; J. W. Bartholow Co., 1221 S. Lamar St., Dallas, Tex.; V. J. Grice, 455 Central Ave., Dubuque, Iowa; Sheehan & Co., 1615 Bassett Ave., El Paso Tex.; Great Falls Tractor & Equipment Co., 315 Second St., South, Great Falls, Mont.; F. W. Gartner Co., 1100 Milby St., Houston, Tex.; Brown-Bevis Co., Forty-ninth St. and Santa Fe Ave., Los Angeles, Calif.; Petrie Tractor & Equipment Co., 618 S. Higgins St., Missoula, Mont.; Wylie-Stewart Machinery Co., Inc., Noble and Shartel Sts., Oklahoma City, Okla.; Ray Equipment Co., 613 S. Twenty-fourth St., Omaha, Nebr.; Equipment Corp. of Arizona, Phoenix, Ariz.; Stannard-Arnold Machinery Co., Inc., 149 W. Second South St., Salt Lake City, Utah; Chadwick Machinery Co., P. O. Box 821, San Antonio, Tex.; Burnite Machinery Co., 518 Boston Bldg., Denver, Colo.
Export Office:
Northwest Engineering Co., Granville House, 3 Arundel St., London, W. C. 2, England.
Norwell-Wilder Supply Co., P. O. Box 802, Beaumont, Tex.
Branches:
Houston, Tex.; Fort Worth, Tex.; Refugio, Tex.; Shreveport, La.
Manufacturers Represented:
Jones & Laughlin Steel Corp., (pipe, casing, tubing—seamless and welded); Lunkenheimer Co., (valves and engineering specialties); Whitlock Cordage Co., (cordage); Strong, Carlisle & Hammond Co., (steam and gasoline traps, valves and separators); Kerotest Mfg. Co., (steel valves and fittings); Gardner-Denver Co., (pumps and compressors); Hercules Motors Corp. (engines for gasoline or natural gas); American Cable Co., (wire rope); New York Rubber Corp. (belting and hose); Baker Oil Tools, Inc. (cement float shoes, guide plugs); Byron Jackson Co. (pumps and drilling tools); Corona Silica Co. (Opalite); Carborundum Co., (grinding wheels and abrasives); Black & Decker Mfg. Co., (electric tools); Alemite Co., (lubrication fittings); Allis Chalmers Mfg. Co. (Tex-Rope drives); General Electric Co. (motors and welding electrodes); Kennedy Valve Mfg. Co. (valves); A. M. Byers Co., (wrought iron pipe and tubing); Botfield Refractories Co. (Adamant cement, refractories); American Hoist & Derrick Co. (locomotive and stiff leg cranes); E. B. Wiggins Oil Tools Co. (rotary hose couplings); Cleveland Pneumatic Tool Co. (pneumatic tools); International Derrick & Equipment Co. (Greyhound products); Detroit Oak Belting Co. (leather belting); Hughes Tool Co. (rotary drilling tools); Lucey Products Co. (boilers, drilling equipment).
Nove Engine Co., Porter St., Lansing, Mich.
Branch:
811 Graybar Bldg., New York, N. Y.
Distributors:
National Supply Co. (all branches).
Nye Tool & Machine Works, 4120 Fullerton Ave., Chicago, Ill.
Distributors:
Jarecki Mfg. Co. (all branches), Continental Supply Co., (all branches), Frick-Reid Supply Corp. (all branches), International Supply Co. (all branches), Atlas Supply Co. (all branches), Bovaird Supply Co. (all branches), Oil Well Supply Co. (all branches), Republic Supply Co. (all branches), Norvell-Wilder Supply Co. (all branches).

O

Oakite Products, Inc., 22 Thames St., New York, N. Y.
Branches and Representatives:
Albany, N. Y.; Allentown, Pa.; Atlanta, Ga.; Augusta, Ga.; Baltimore, Md.; Boston, Mass.; Brooklyn, N. Y.; Buffalo, N. Y.; Chattanooga, Tenn.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Cohoes, N. Y.; Columbus, Ohio; Cranford, N. J.; Dallas, Tex.; Dayton, Ohio; Decatur, Ill.; Denver, Colo.; Detroit, Mich.; Fairfield, Conn.; Flint, Mich.; Fresno, Calif.; Grand Rapids, Mich.; Greensboro, N. C.; Houston, Tex.; Harrisburg, Pa.; Indianapolis, Ind.; Jackson, Mich.; Kansas City, Mo.; Lexington, Mass.; Los Angeles, Calif.; Louisville, Ky.; Madison, Wis.; Memphis, Tenn.; Milwaukee, Wis.; Minneapolis, Minn.; Newark, N. J.; New Haven, Conn.; New Orleans, La.; North East, Pa.; Oakland, Calif.; Oklahoma City, Okla.; Philadelphia, Pa.; Pittsburgh, Pa.; Pleasantville, N. Y.; Portland, Ore.; Providence, R. I.; Richmond, Va.; Rochester, N. Y.; Rockford, Ill.; Rock Island, Ill.; Sacramento, Calif.; St. Lambert, Quebec; St. Louis, Mo.; Seattle, Wash.; Springfield, Mass.; Stratford, Conn.; Syracuse, N. Y.; Toledo, Ohio; Toronto, Ontario, Canada; Trenton, N. J.; Tulsa, Okla.; Utica, N. Y.; Waverly, N. Y.; West Hartford, Conn.; Worcester, Mass.
O'Brien Steel Construction Co., Inc., Washington, Pa.
Distributor:
Rig Equipment Co., 1524 S. St. Louis St., Tulsa, Okla.
Ohio Injector Co., 243-277 Main St., Wadsworth, Ohio.
Branches:
Philadelphia, Pa.; Tulsa, Okla.; Chicago, Ill.
Distributors:
International Supply Co., Tulsa, Okla., and all branches; Oil Well Equipment Co., Los Angeles, Calif.; T. T. Word Supply Corp., Houston and Sequin, Tex., and Shreveport and Lake Charles, La.
Export Office:
5940 Grand Central Terminal, New York, N. Y.
Oil Conservation Engineering Co., 877 Addison Rd., Cleveland, Ohio
Branches:
Tulsa, Okla.; Beaumont, Tex.; New York, N. Y.
Oil Field Engineering Corp., W. Rio Grande Ave. and Frisco Tracks, Fort Worth, Tex.
Branches:
Houston, Tex.; San Antonio, Tex.; El Dorado, Ark.; Tulsa, Okla.; Coffeyville, Kans.
Distributors:
Atlas Supply Co. (all branches), Putnam Supply Co. (all branches), Dunigan Tool & Supply Co. (all branches), Longhart Supply Co. (all branches), Southwestern Supply Agency (all branches).
Oil Well Improvements Co., P. O. Box 1880, Tulsa, Okla.
Distributors:
Atlas Supply Co., Muskogee, Okla. (all branches); Bovaird Supply Co., Tulsa, Okla. (all branches); Continental Supply Co., St. Louis, Mo. (all branches); Drillers Supply Co., Eureka, Kans. (all branches); Dunigan Tool & Supply Co., Breckenridge, Tex. (all branches); Frick-Reid Supply Corp., Pittsburgh, Pa. (all branches); Hercules Supply Co., Fort Worth, Tex.; (all branches); International Supply Co., Tulsa, Okla. (all branches); Jarecki Manufacturing Co., St. Louis, Mo. (all branches); Mountain Iron & Supply Co., Wichita, Kans. (all branches); Murray Tool & Supply Co., Cleveland, Okla. (all branches); National Supply Co., Toledo, Ohio (all branches); Norvell-Wilder Supply Co., Beaumont, Tex. (all branches); Oil Well Supply Co., Oil City, Pa. (all branches); Producers Supply & Tool Co., Fort Worth, Tex. (all branches); Republic Supply Co., Houston, Tex. (all branches); Wagner Supply Co., Fort Worth, Tex. (all branches); Western Supply Co., Tulsa, Okla. (all branches).
Export Offices:
Continental Emsco Co., New York, N. Y.; Lucey Products Corp., New York, N. Y.; National Supply Corp., New York, N. Y.; Oil Well Supply Co., New York, N. Y.
Oil Well Supply Co., Imperial Works, Oil City, Pa.
Branches:
Bradford, Pa.; Bridgeport, Ill.; Butler, Pa.; Cairo, W. Va.; Casey, Ill.; Charleston, W. Va.; Clarksburg, W. Va.; Clintonville, Pa.; Franklin, Pa.; Kane, Pa.; Lima, Ohio; Logan, Ohio; Marietta, Ohio; Mount Pleasant, Mich.; Muskegon, Mich.; Newark, Ohio; Oil City, Pa.; Owensboro, Ky.; Parkersburg, W. Va.; Pittsburgh, Pa.; Prestonburg, Ky.; Roseville, Ohio; Bolivar, N. Y.; Sistersville, W. Va.; Washington, Pa.; Winchester, Ky.; Woodsfield, Ohio; Wooster, Ohio; Albany, Tex.; Bartlesville, Okla.; Beaumont, Tex.; Best, Tex.; Big Spring, Tex.; Blackwell, Okla.; Borger, Tex.; Breckenridge, Tex.; Bristow, Okla.; Brownwood, Tex.; Casper, Wyo.; Cody, Wyo.; Conrad, Mont.; Cross Plains, Tex.; Cushing, Okla.; Dallas, Tex.; Denver, Colo.; Duncan, Okla.; Earlsboro, Okla.; Eldorado, Kans.; Electra, Tex.; Florence, Colo.; Fort Worth, Tex.; Garber, Okla.; Hobbs, N. M.; Houston, Tex.; Kevin, Mont.; Luling, Tex.; Madison, Kans.; Maud, Okla.; Mexia, Tex.; Mirando City, Tex.; McCamey, Tex.; Oklahoma City, Okla.; Okmulgee, Okla.; Olney, Tex.; Pampa, Tex.; Pettus, Tex.; Ponca City, Okla.; Pyote, Tex.; Ranger, Tex.; Seminole, Okla.; Shreveport, La.; Shidler, Okla.; Tulsa, Okla.; Wewoka, Okla.; Wichita, Kans.; Wichita Falls, Tex.; Wilson, Okla.; Winfield, Kans.; Wynona, Okla.; Coalinga, Calif.; Goleta, Calif.; Huntington Beach, Calif.; Long Beach, Calif.; Los Angeles, Calif.; Maricopa, Calif.; Oildale, Calif.; Orcutt, Calif.; Santa Fe Springs, Calif.; Taft, Calif.; Venice, Calif.; Ventura, Calif.; El Dorado, Ark.; Calgary, Alberta, Canada; Okotoka, Alberta, Canada.
Export Offices:
W. H. Whittekin, manager, Lincoln Building, 60 E. Forty-second St., New York, N. Y.; Ashley Carter, manager, Dashwood House, 69 Old Broad St., London, England; Strade Ghoerghe Lazar, No. 4 Strada Pacei Ploesti, Rumania, C. T. Longcroft, representative; Monsieur Lucien J. Biliand, 42 Rue de Provence, Paris, France; Augusto T. Barberini, Palazzo Della Banca d'America e d'Italia Largo del Tritone, Via del Maroniti, 41, Rome, Italy; W. P. Laseter, president, Cia. Colsolidada "Oilwell," S. A., Apartado 331, Tampico, Mexico; E. H. Trammel, representative, W. S. Robertson & Co., Ltd., San Fernando, Trinidad, British West Indies; E. H. Trammel, representative, Apartado 87, Maracaibo, Venezuela; J. R. Webb, representative, care Cia. Westinghouse Electric Internacional, S. A., Avenida de Mayo No. 1035, Buenos Aires, Argentina.
Oklahoma Contracting Co., 5500 Holmes Street Road, Dallas, Tex.
Oklahoma Gas & Electric Co., 321 N. Harvey St., Oklahoma City, Okla.
Ottumwa Iron Works, 402 W. Main St., Ottumwa, Iowa
Distributors:
C. H. McCullough Engineering

Co., Oliver Bldg., Pittsburgh, Pa.; W. L. Richards, Deposit & Savings Bank Bldg., Wilkes-Barre, Pa.; John A. Masek, 1160 Thirty-ninth St., Milwakuee, Wis.; William Constable Co., Providence Bldg., Duluth, Minn.; J. F. Harvey, 307 Dooly Bldg., Salt Lake City, Utah; Irving R. Gard Co., 1117 Pike St., Seattle, Wash.; Young & Vann Supply Co., Birmingham, Ala.; Virginian Electric, Inc., Charleston, W. Va.; Mine & Smelter Supply Co., El Paso, Tex.; Machinery Corp., S. A., Mexico City, Mexico.

Okmulgee Boiler & Welding Works,
622 E. Main St., Okmulgee, Okla.
Distributors:
Continental Supply Co. (all branches).
Export Office:
Continental Emsco Co., New York, N. Y.

Oliver United Filters, Inc.,
Federal Reserve Bank Bldg., San Francisco, Calif.
Branches:
Chicago, Ill.; New York, N. Y.
Export Offices:
33 W. Forty-second St., New York, N. Y.; 150 Southhamton Row, London, W. C. 1, England; T. L. Genter, Concessionaire 63, Avenue Des Champs Elysees, Paris, France.

Oxweld Acetylene Co.,
(Unit of Union Carbide & Carbon Corp.)
30 E. Forty-second St., New York, N. Y.
Branches:
Atlanta, Ga.; Baltimore, Md.; Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Denver, Colo.; Detroit, Mich.; El Paso, Tex.; Houston, Tex.; Kansas City, Mo.; Los Angeles, Calif.; Memphis, Tenn.; Milwaukee, Wis.; Minneapolis, Minn.; New Orleans, La.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; Salt Lake City, Utah; San Francisco, Calif.; Seattle, Wash.; Tulsa, Okla.
Export Offices:
30 E. Forty-second St., New York, N. Y.

P

Page Fence Association,
520 N. Michigan Ave., Chicago, Ill.

Page Steel & Wire Co.,
New York Central Bldg., 230 Park Ave., New York, N. Y.
Branches:
New York, N. Y.; Chicago, Ill.; Pittsburgh, Pa.; San Francisco, Calif.
Distributors:
Buffalo Fence Construction Co., 1166 Elk St., Buffalo, N. Y.; Erie Concrete & Steel Co., Erie, Pa.; Stewart-Holland Co., 1212 Sarah St., S. S. Pittsburgh, Pa.; Titchener Iron Works, 23 Griswold St., Binghampton, N. Y.; Bittenbender Co., 126 Franklin Ave., Scranton, Pa.; Brook Iron Works, Inc., 99 Church St., New York, N. Y.; Horace T. Potts & Co., E. Erie Ave. and D St., Philadelphia, Pa.; Betz-Pierce Co., 2230 E. Ninth St., Cleveland, Ohio; Toledo Fence & Post Co., 2907 Summit St., Toledo, Ohio; F. Wilking Sons Co., 36-42 N. Fifth St., Zanesville, Ohio; W. W. Wilson & Son., corner Court and Hinde Sts., Washington C. H. Ohio; J. R. Roof, Ashville, Ohio; Parkersburg Supply Co., 314 Fourth St., Parkersburg, W. Va.; Richmond Machinery & Equipment Co., 12-16 N. Fifteenth St., Richmond, Va.; West Virginia-Kentucky Hardware Co., Box 1620, Huntington, W. Va.; Graves Humphreys Co., 18-20 Church Ave., S. E., Roanoke, Va.; Vass-Mobley Hardware Co., Danville, Va.; Logan Co., 1115 Franklin St., Louisville, Ky.; Johnson City Foundry & Machine Co., Johnson City, Tenn.; James Supply Co., 1104 Market St., Chattanooga, Tenn.; Nelson Iron Works, W. End Dale Ave., Knoxville, Tenn.; A. F. Wagner Architectural Iron Works, 736 N. Water St., Milwaukee, Wis.; Chicago Fence & Wire Co., 4400 Addison St., Chicago, Ill.; Hoosier Fence & Wire Co., 4400 Addison St., Chicago, Ill.; Sears & Piou 1001 N. Sixth St., St. Louis, Mo.; Miller-Cochran Co., 246 Court Ave., Memphis, Tenn.; Beaird Corp., 6000-6300 St. Vincent Ave., Shreveport, La.; Peerless Supply Co., 122 N. Lansing St., Tulsa, Okla.; Orleans Steel Products Co., 1025 Bienville St., New Orleans, La.; Columbia Fence & Wire Co., 3120 Grand Ave., Dallas, Tex.; Vincent A. Tozzi, 1505 Live Oak St. (Box No. 1034), Houston, Tex.; Southern Steel Co., 4700 S. Presa St., San Antonio, Tex.; Kansas City Wire & Iron Works, 1428-30 Oak St., Kansas City, Mo.; Stearns-Roger Mfg. Co., 1718 California St., Denver, Colo.; Burnhamd Mfg. Co., Woods Cross, Utah; Volney Dixon, Lock Box 967, Medford, Ore.; Portland Wire & Iron Works, 944 E. Seventeenth St., Portland, Ore.; Spokane Culvert & Tank Co., N. end Division St. Bridge, Spokane, Wash.; Galbraith & Co., Foot of Wall St., Seattle, Wash.; Southern California Fence Co., 3651 Whittier Blvd., Los Angeles, Calif.; Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco, Calif.; Air Reduction Sales Co., 60 E. Forty-second St., New York, N. Y.; Arcway Equipment Co., Philadelphia, Pa.; Brown Wales Co., Boston Mass.; Craftsweld Equipment Co., New York, N. Y.; Faltoute Iron & Steel Co., Newark, N. J.; K. G. Welding & Cutting Co., New York, N. Y.; Alexander Milburn Co., Baltimore, Md.; P. F. McDonald Co., Boston, Mass.; Page Steel & Flag Co., New Haven, Conn.; Sound Welding Co., New York, N. Y.; R. D. Thomas & Co., Philadelphia, Pa.; Welding Service Co., New York, N. Y.; W. S. Wilson Corp., New York, N. Y.; Barnes Wire Fence Co., Detroit, Mich.; Beals, McCarthy & Rogers, Buffalo, N. Y.; Buhl Sons Co., Detroit, Mich.; Capitol City Supply Co., Charleston, W. Va.; F. D. Lawrence Electric Co., Cincinnati, Ohio.; Sidney B. Roby Co., Rochester, N. Y.; Ben Williams Supply Co., Ashland, Ky.; Balbach Co., Omaha, Nebr.; A. M. Castle Co., Chicago, Ill.; Grohs & Uptegrove, St. Paul, Minn.; Hays Supply Co., Memphis, Tenn.; Imperial Brass Mfg. Co., Chicago, Ill.; Ingalls Iron Works, Birmingham, Ala.; Kansas City Oxygen Co., Kansas City, Mo.; William G. Lex Co., Evansville, Ind.; Massey Hardware Co., Wichita, Kans.; Moark Oxygen Co., Ft. Smith, Ark.; Modern Engineering Co., St. Louis, Mo.; National Welding Products Co., Chicago, Ill.; C. F. Neeling, Kansas City, Mo.; Peden Iron & Steel Co., Houston, Tex.; Texas Acetylene Co., Fort Worth, Tex.; Texas Hardware & Supply Co., Electra, Tex.; Wichita Falls Oxygen Co., Wichita Falls, Tex.; Briggs Weaver Co., Dallas, Tex.; Modern Engineering Co., El Paso, Tex.; M. L. Foss, Inc., Denver, Colo.; American Rolling Mill Co. of California, San Francisco, Calif.; Brown Brothers Welding Co., San Francisco, Calif.; Thompson-Diggs Co., Sacramento, Calif.

Parkersburg Machine Co.,
Orchard St., South Side, Parkersburg, W. Va.

Parkersburg Rig & Reel Co.,
Depot St., Parkersburg, W. Va.
Branches:
Tulsa, Okla.; Drumright, Okla.; Marshall, Okla.; Maud, Okla.; Oklahoma City, Okla.; Seminole, Okla.; Mount Pleasant, Mich.; Hobbs, N. Mex.; Owensboro, Ky.; El Dorado, Ark.; McPherson, Kans.; Valley Center, Kans.; Clarksburg, W. Va.; Parkersburg, W. Va.; Shreveport, La.; Zwolle, La.; Fort Worth, Tex.; Beeville, Tex.; Big Spring, Tex.; Borger, Tex.; Breckenridge, Tex.; Bryson, Tex.; Grand Saline, Tex.; Electra, Tex.; Houston, Tex.; Luling, Tex.; McCamey, Tex.; Odessa, Tex.; Orange, Tex.; Pampa, Tex.; Pyote, Tex.; San Antonio, Tex.; Woodsboro, Tex.
Distributors:
Great Northern Tool & Supply Co., Kevin, Mont.; Billings, Mont.; Cody, Wyo.; Kemmerer, Wyo.; Casper, Wyo.
Export Offices:
Parkersburg Rig & Reel Co., 25 Broadway, Room 736, New York, N. Y.

R. S. Patrick,
Sellwood Bldg., Duluth, Minn.

Patterson-Ballagh Corp.,
609 Insurance Exchange Bldg., Los Angeles, Calif.
Distributors:
Bettis Sales Co., 917 Merchants & Manufacturers Bldg., Houston, Tex.; Bailey-Becker Co., 410 Thompson Bldg., Tulsa, Okla.
Export Offices:
Patterson-Ballagh Corp., 39 Cortlandt St., New York, N. Y.

Penberthy Injector Co.,
1242 Holden Ave., Detroit, Mich.
Branch Factory:
Windsor, Ontario, Canada.
Distributors:
Practically all mill supply and oil well supply houses.

Petroleum Engineering, Inc.,
616 Philtower Bldg., Tulsa, Okla.
Branch:
Fort Worth, Tex.

Petroleum Equipment Co. of Texas, Inc.,
West Rio Grande Ave. and Frisco Tracks, Fort Worth, Tex.
Branches:
Houston, Tex.; San Antonio, Tex.; El Dorado, Ark.; Tulsa, Okla.; Coffeyville, Kans.
Distributors:
Atlas Supply Co. (all stores); Wagner Supply Co. (all stores); Dunigan Tool & Supply Co. (all stores); Putnam Supply Co. (all stores); International Supply Co., Stores at Wink, Tex.; Borger, Tex.; Southwestern Supply Agency (all stores). Our equipment is stocked throughout Texas, Oklahoma, Kansas, Louisiana and Arkansas by all independent supply companies.
Export Office:
All export handled through Fort Worth office.

Petroleum Iron Works Co.,
P. O. Box 539, Sharon, Pa.
Branches:
New York, N. Y.; Tulsa, Okla.; Chicago, Ill.

Carl H. Pforzheimer & Co.,
25 Broad St., New York, N. Y.

Pittsburgh-Des Moines Steel Co.,
3400 Neville Island, Pittsburgh, Pa.
Branches:
Des Moines, Iowa; New York, N. Y.; Chicago, Ill.; Seattle, Wash.; Dallas, Tex.; San Francisco, Calif.; Atlanta, Ga.
Export Offices:
W. E. R. Moore, Export Manager, 50 Church St., New York, N. Y.

Pittsburgh Equitable Meter Co.,
400 N. Lexington Ave., Pittsburgh, Pa.
Branches:
Chicago, Ill.; Columbia, S. C.; Kansas City, Mo.; New York, N. Y.; Dallas, Tex.; Tulsa, Okla.; Los Angeles, Calif.; Houston, Tex.; Seattle, Wash.
Export Office:
50 Church St., New York, N. Y.

Pittsburgh Screw & Bolt Corp., P. O. Box 752, Pittsburgh, Pa.
Branches:
New York, N. Y.; Chicago, Ill.

Pittsburgh Steel Products Co., 700 Union Trust Bldg., Pittsburgh, Pa.
Branches:
Tulsa, Okla.; St. Louis, Mo.; Chicago, Ill.; Houston, Tex.; New York, N. Y.; Detroit, Mich.
Distributors:
Buck & Stoddard, Inc., Los Angeles, Calif.; Atlas Supply Co., Muskogee, Okla.; Bridegport Machine Co., Wichita, Kans.; Dunigan Tool & Supply Co., Breckenridge, Tex.; Houston Oil Field Material Co., Houston, Tex.; Lucey Products Corp., Tulsa, Okla.; Mid-Continent Supply Co., Houston, Tex.; Mountain Iron & Supply Co., Parkersburg, W. Va.; Murray Brooks Hardware Co., Lake Charles, La.; Murray Tool & Supply Co., Cleveland, Okla.; Producers Supply & Tool Co., Marietta, Ohio; Southwest Supply Co., Bartlesville, Okla.; Standard Supply Co., Wichita Falls, Tex.; Taubman Supply Corp., Tulsa, Okla.; Western Supply Co., Tulsa, Okla.
Export Offices:
Lucey Products Corp., 3505 Woolworth Bldg., New York, N. Y.; Pittsburgh Steel Products Co., 120 Broadway, New York, N. Y.

Plymouth Cordage Co., North Plymouth, Mass.
Branches:
Boston, Mass.; New York, N. Y.; New Orleans, La.; Chicago, Ill.
Distributors:
Oil Well Supply Co. (all branches).
Export Office:
Plymouth Cordage Co., Welland, Canada.

Pomona Pump Co.,
206 E. Commercial St., Pomona, Calif.
Branches:
New York, N. Y.; Chicago, Ill.; Pittsburgh, Pa.
Distributors:
National Supply Co., Toledo, Ohio; U. S. Wind Engine & Pump Co., Kansas City, Mo.; Shuler Co., Oklahoma City, Okla.; Southern Engine & Pump Co., Houston, Tex.; Mine & Smelter Supply Co., El Paso, Tex.; Menge Pump & Machinery Co., New Orleans, La.; Central Supply Co., Little Rock, Ark.; Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo.; Interstate Machinery & Supply Co., Omaha, Nebr.; Joplin Machinery & Electric Co., Joplin, Mo.; Stewart Machinery Co., St. Louis, Mo.; Harris Pump & Supply Co., Pittsburgh, Pa.; P. J. McAuliffe, New York, N. Y.; Ohio Pump & Supply, Inc., Marion, Ohio; Crain Pump & Lumber Co., Philadelphia, Pa.; Alfred M. Weise, Antigo, Wis.
Export Offices:
Midgett & Evans, Apartado 62, Torreon, Coahuila, Mexico; Mayaudon & Co., Calle Paez 166, Valencia, Venezuela; Montemayor Co., Traposos a Colon 35 y 39, Caracas, Venezuela; D. J. Antonio Miron, Calle de Concepcion 34, San Salvador, Central America; E. Martinez Negrete, Apartado 106, 373 Calle Juarez, Guadalajara, Jal., Mexico; Lawrence N. B. Bullock, Calle 16 de Septiembre 5, Mexico, D. F.; M. Burger, 16 Herzl St., Tel Aviv, Palestine; Union Commercial de Cuba, Apartado 1366, Havana, Cuba; George Findlay & Co., Ltd., 22 Parliament St., Capetown, South Africa; Sr. D. Felix Castellanos, Apartado 365, Guatemala City, Guatemala, Central America.

Wm. Powell Co.,
2525 Spring Grove Ave., Cincinnati, Ohio.

Power Piping Co.,
829 Beaver Ave., N. S., Pittsburgh, Pa.
Branches:
Chicago, Ill.; Detroit, Mich.; New York, N. Y.

Prescott Co., Menominee, Mich.

Pressed Steel Car Co.,
55 Broad St., New York, N. Y.
Branches:
Pittsburgh, Pa.; Chicago, Ill.; St. Louis, Mo.; St. Paul, Minn.
Export Offices:
Davis & Lloyd, 26 Victoria St., Westminster, London, S. W. 1. England; Andersen, Meyer & Co., Ltd., 4-5 Yuen Ming Yuen Road, Shanghai, China.

Prest-O-Lite Co., Inc.,
(Unit of Union Carbide & Carbon Co.)
30 E. Forty-second St., New York, N. Y.
Branches:
Atlanta, Ga.; Baltimore, Md.; Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Denver, Colo.; Detroit, Mich.; El Paso, Tex.; Houston, Tex.; Kansas City, Mo.; Los Angeles, Calif.; Memphis, Tenn.; Milwaukee, Wis.; Minneapolis, Minn.; New Orleans, La.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; Salt Lake City, Utah; San Francisco, Calif.; Seattle, Wash.; Tulsa, Okla.

Public Service Co. of Oklahoma, Public Service Bldg., Tulsa, Okla.

Pure Oil Co.,
35 E. Wacker Drive, Pure Oil Bldg., Chicago, Ill.
Branches:
Bethlehem, Pa.; Philadelphia, Pa.; Parsons, Pa.; Columbus, Ohio; Akron, Ohio; Cincinnati, Ohio; Dayton, Ohio; Minneapolis, Minn.; St. Paul, Minn.; Canton, Ohio; Indianapolis, Ind.; Pittsburgh, Pa.; Charleston, W. Va.; Wheeling, W. Va.; Binghampton, N. Y.; New York, N. Y.; Syracuse, N. Y.; Troy, N. Y.; Utica, N. Y.

R

Rapid Fire Prevention Co., Ltd.,
5631 S. Riverside Drive, Los Angeles, Calif.

Reading Iron Co.,
Baer Bldg., Reading, Pa.
Branches:
Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Detroit, Mich.; Houston, Tex.; New Orleans, La.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; San Francisco, Calif.; Los Angeles, Calif.; St. Louis, Mo.; Kansas City, Mo.; Seattle, Wash.; Tulsa, Okla.

Reading Steel Casting Co.,
929 Connecticut Ave., Bridgeport, Conn.
Branches:
Boston, Mass.; Charlotte, N. C.; Chicago, Ill.; Detroit, Mich.; Hartford, Conn.; Houston, Tex.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; Reading, Pa.; Rochester, N. Y.; San Francisco, Calif.; St. Louis, Mo.; Tulsa, Okla.
Distributors:
Alamo Iron Works, San Antonio, Tex.; Brownsville, Tex.; Corpus Christi, Tex.; Grinnell Co. of the Pacific., Los Angeles, Calif.; San Francisco, Calif.; Seattle, Wash.

Reed Roller Bit Co.,
P. O. Box 1863, Houston, Tex.
Branches:
Los Angeles, Calif.; Oklahoma City, Okla.; New York, N. Y.; Luling, Tex.; Beeville, Tex.; Lake Charles, La.; Hobbs, N. M.
Distributors:
National Supply Co. (all stores rotary territory); Oil Well Supply Co. (all stores rotary territory); Republic Supply Co. (all stores rotary territory); Continental Supply Co. (all stores rotary territory); International Supply Co. (all stores rotary territory); Frick-Reid Supply Corp. (all stores rotary territory); Bridgeport Machine Co. (all stores rotary territory); Jarecki Manufacturing Co. (all stores rotary territory).

Regan Forge & Engineering Co., Regan St., San Pedro, Calif.
Branches:
New York, N. Y.; Dallas, Tex.
Distributors:
Leading supply stores throughout the oil fields.
Export Offices:
William Braat, manager, 75 West St., New York, N. Y.; William T. Adams, c-o American Consul, Maracaibo, Venezuela, South America; J. W. Elder, Strada D. C., Britianu No. 30, Ploesti, Rumania.

Joseph Reid Gas Engine Co., Main St., Oil City, Pa.
Branches:
Logan, Ohio; Marietta, Ohio; Newark, Ohio; Charleston, W. Va.; Los Angeles, Calif.
Distributors:
Frick-Reid Supply Corp. (all branches); R. B. Moore, Bolivar, N. Y.; Republic Supply Co. of California (distributors in California).
Export Offices:
Oil Field Equipment Co., Inc., 30 Church St., New York, N. Y.

Reo Motor Car Co., Lansing, Mich.
Distributors:
In all principal cities in United States.
Export Offices:
Distributors and dealers in all principal countries.

Republic Steel Corp., Republic Bldg., Youngstown, Ohio
Branches:
Cleveland, Ohio; Buffalo, N. Y.; Detroit, Mich.; Philadelphia, Pa.; Boston, Mass.; Birmingham, Ala.; Chicago, Ill.; Pittsburgh, Pa.; New York, N. Y.; Denver, Colo.; Milwaukee, Wis.; St. Paul, Minn.; St. Louis, Mo.; Cincinnati, Ohio; San Francisco, Calif.; Dallas, Tex.; Seattle, Wash.; Indianapolis, Ind.; Tulsa, Okla.
Distributors:
Republic Supply Co. (all branches); Taubman Supply Corp., Tulsa, Okla. (all branches).
Export Offices:
Republic Steel Corp., Lincoln Bldg., New York, N. Y.

Republic Supply Co., Houston, Tex.
Branches:
El Dorado, Ark.; Shreveport, La.; Pettus, Tex.; Luling, Tex.; Houston, Tex.; Big Spring, Tex.; Borger, Tex.; Bryson, Tex.; Electra, Tex.; Nocona, Tex.; Pampa, Tex.; Wichita Falls, Tex.; Hobbs, N. M.; Bristow, Okla.; Tulsa, Okla.; Cushing, Okla.; Duncan, Okla.; Garber, Okla.; Maud, Okla.; Oklahoma City, Okla.; Seminole, Okla.; Wewoka Okla.; Wilson, Okla.; Wichita, Kans.
Manufacturers Represented:
Republic Steel Corp. (Toncan pipe, electric weld pipe, lapweld pipe, turnbuckles, bolts); Spang, Chalfant & Co. (seamless casing, tubing, drill pipe); Broderick & Bascom Rope Co. (yellow strand and cast steel wire rope); William Powell Co. (brass, iron and steel valves); Mission Sales Co. (Mission rotary slips and Kibele pistons); Diamond Rubber Co. (Defiance rotary hose, Diamond rubber packing and belt; R. & J. Dick Co. (Dick Balata pump valves, Dick belt and tentacular belt); American Well & Prospecting Co. (gumbo buster slush pumps, engines, rotaries, crown and traveling blocks, swivels, etc.); Hughes Tool Co. (tool joints, simplex rock bits, steel valves and fittings); Wall Rope Works (cordage); St. Louis Cordage Mills (cordage); Titusville Iron Works Co. (oil country boilers in Oklahoma and New Mexico); E. & L. Co. (boiler washers, E. & L. combination, low and high pressure burners); S. M. Jones & Co. (sucker and pull rods); Webber Gas Engine Co. (gas engines).

Resistcor Engineering Corp., Oklahoma Natural Gas Bldg., Tulsa, Okla.
Branches:
Memphis, Tenn.; Kansas City, Mo.; Dallas, Tex.; Muskogee, Okla.

Robinson Orifice Fitting Co., 1435 Santa Fe Ave., Los Angeles, Calif.
Distributors:
Foxboro Co., Foxboro, Mass.; Tulsa, Okla.; Houston, Tex.; Dallas, Tex.; Westcott & Greis, Tulsa, Okla.; Houston, Tex.; Dallas, Tex.; Peacock Brothers Co., Ltd., Montreal, Canada.
Export Offices:
Foxboro Co., Foxboro, Mass.

Ross-Meehan Foundries, 1101 Carter St., Chattanooga, Tenn.
Branches:
New Orleans, La.; Houston, Tex.

S

Safety Gas Main Stopper Co., 523 Atlantic Ave., Brooklyn, N. Y.
Distributors:
C. B. Babcock Co., 135 Bluxome St., San Francisco, Calif.; Kansas City Rubber & Belting Co., 712 Delaware St., Kansas City, Mo.

N. A. Saigh Co., 511 Builders Exchange Bldg., San Antonio, Tex.

St. Louis Cordage Mills (Branch of American Manufacturing Co.)
Eleventh & Soulard Sts.,
St. Louis, Mo.
Branches:
Tulsa, Okla.; New Orleans, La.; Galveston, Tex.; Chicago, Ill.
Distributors:
Altoona Pipe Line & Supply Co.; Biggs & Co.; Black Hardware Co.; Bradford Supply Co.; Drillers Supply Co.; Dunigan Tool & Supply Co.; Federal Supply & Machine Co.; Hercules Supply Co.; Houston Oil-Field Material Co.; Jarecki Mfg. Co.; J. M. Supply Co.; Lucey Products Corp.; Marion Machine, Foundry & Supply Co.; McPherson Machine & Tool Co.; Mountain Iron & Supply Co.; Peden Co.; Peerless Supply Co.; Pelican Well, Tool & Supply Co.; Petroleum Supply Co.; Pittsburgh Pipe & Supply Co.; Republic Supply Co.; Standard Supply Co.; E. L. Wilson Hardware Co.; El Dorado Foundry & Machine Co.
Export Offices:
American Manufacturing Co., Noble and West Sts., Brooklyn, N. Y.

Scandinavia Belting Co.,
248 Central Ave., Newark, N. J.
Branches:
Boston, Mass.; Cleveland, Ohio; Chicago, Ill.; Pittsburgh, Pa.; Easton, Pa.; Los Angeles, Calif.; Portland, Ore.
Distributors:
Mid-Continent Supply Co., Fort Worth, Tex., Houston, Tex., Tulsa, Okla., Odessa, Tex., Shreveport, La.; Leland Brothers Co., Los Angeles, Calif.; Farley Machine Co., Arkansas City, Kans., Hutchinson, Kans., Hays, Kans., Peabody, Kans., Raymond, Kans; Wallace Mfg. Co., Oklahoma City, Okla.
Export Office:
American Steel Export Co., 295 Madison Ave., New York, N. Y.

Schramm, Inc.,
West Chester, West Chester, Pa.
Branches:
New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; Tulsa, Okla.; San Francisco, Calif.; Chicago, Ill.; Boston, Mass.; Cleveland, Ohio; Birmingham, Ala.; Detroit, Mich.
Distributors:
Throughout the United States.

Shaffer Tool Works,
Box 398, Brea, Calif.
Branches:
Bakersfield, Calif.; Ventura, Calif.; Long Beach, Calif.
Distributors:
Robert J. Miller Co., Houston, Tex.; Fluid Packed Pump Co., Tulsa, Okla.
Export Offices:
Oil Well Supply Co., New York, N. Y.

Sheldon Machinery Corp.,
15 Park Row, New York, N. Y.
Branches:
Houston, Tex.
Distributors:
Lucey Proudcts Corp.; Oil Well Supply Co.; Continental Supply Co.
Export Offices:
Lucey Products Corp., Woolworth Bldg., New York, N. Y.; Oil Well Supply Co., Lincoln Bldg., New York, N. Y.; Continental Supply Co.; Sheldon Machinery Corp., 401 Eighth Ave., West, Calgary, Alberta, Canada; Sheldon Machinery Corp., Apartado 939, Tampico, Mexico.

Shell Petroleum Corp.,
Shell Bldg., St. Louis, Mo.

Sherwin-Williams Co.,
Midland Bldg., Cleveland, Ohio
Branches:
In all principal cities:

Sinclair Refining Co., Inc.,
45 Nassau St., New York, N. Y.
Branches:
Fort Worth, Tex.; Houston, Tex.; Kansas City, Mo.; Chicago, Ill.; Atlanta, Ga.; Los Angeles, Calif.
Distributors:
Sinclair products are obtainable at any of the 2,027 regular Sinclair bulk plants and through the regularly authorized Sinclair distributors.
Letters addressed to the manager of any branch office will receive immediate attention.
Canadian Office:
Sinclair Refining Co. of Canada, Ltd., Toronto, Canada.

Sivyer Steel Casting Co.,
Milwaukee, Wis.
Branches:
Chicago, Ill.; Fort Worth, Tex.

Skelly Oil Co.,
Skelly Bldg., Tulsa, Okla.
Branches:
Kansas City, Mo.; St. Louis, Mo.; Des Moines, Iowa; Omaha, Nebr.; Minneapolis, Minn.; Chicago, Ill.; Eldorado, Kans.

A. O. Smith Corp.,
Milwaukee, Wis.
Branches:
New York, N. Y.; Los Angeles, Calif.; Houston, Tex.; Tulsa, Okla.
Export Offices:
A. O. Smith Corp., New York, N.Y.

E. M. Smith Co.,
637 S. Clarence St.,
Los Angeles, Calif.
Branches:
Continental Supply Co. stores.
Export Office:
Continental Emsco Co., New York, N. Y.

Smith Separator Co.,
P. O. Box 2003, Tulsa, Okla.
Branches:
Oklahoma City, Okla.; Seminole, Okla.; Houston, Tex.; Fort Worth, Tex.; Midland, Tex.; Hobbs, N. Mex.; Wichita, Kans.
Distributors:
California Machinery & Supply Co., 2449 Hunter St., Los Angeles, Calif.; Continental Supply Co. stores (Mid-Continent territory); International Supply Co. stores (Mid-Continent territory).
Export Offices:
Oilfield Equipment Co., Inc., 30 Church St., New York, N. Y.

Smooth-On Manufacturing Co.,
568-574 Communipaw Ave.,
Jersey City, N. J.

Edward Soph,
215 Alexander Bldg.,
Tulsa, Okla.
Manufacturers Represented:
Diamond Power Specialty Co., Detroit, Mich. (mechanical soot blowers); Hills-McCanna Co., Chicago, Ill. (forced feed lubricators, chemical proportioning pumps, ferrous and nonferrous alloys, tank car unloading valves, still plugs); Duriron Co., Dayton, Ohio (manufacturers of Duriron acid resisting metal. Duriron centrifugal and reciprocating pumps, Duriron mixing nozzles for treating of light and lub oils); Coppus Engineering Co., Worcester, Mass.; Boylston Steel Specialty Co., Chicago, Ill.

South Chester Tube Co.,
Front and Thurlow Sts.,
Chester, Pa.
Branches:
Tulsa, Okla.; Houston, Tex.; Wichita Falls, Tex.; Pittsburgh, Pa.; Los Angeles, Calif.; New York, N. Y.; Fort Worth, Tex.
Distributors:
Prichard Supply Co., Manningston, W. Va.; Mather, Pa.; Waynesburg, Pa.; LeValley, McLeod, Kinkaid Co., Inc., Elmira, N. Y.; Olean, N. Y.; Pelican Well, Tool & Supply Co.; Shreveport, La.; United Oil Well Supply Co., 712 A. G. Bartlett Bldg., Los Angeles, Calif.; Great Northern Tool & Supply Co., Billings, Mont.; Kevin, Mont.; Kammerer, Wyo.; Cody, Wyo.; United Pipe & Supply Co., Charleston, W. Va.; Danville, W. Va.; West Hamlin, W. Va.; Allen, Ky.; Paintsville, Ky.; Ashland, Ky.; Prestonburg, Ky.
Export Offices:
H. A. Morse, 30 Church St., New York, N. Y.

Southern Cornice Works,
120 S. Cincinnati, Tulsa, Okla.

Southern States Co., Inc.,
922 Slattery Bldg.,
Shreveport, La.

Southwestern Construction Corp.,
423 Exchange Bank Bldg., Tulsa, Okla.

Southwestern Engineering Corp.,
606 S. Hill St., Los Angeles, Calif.
Branches:
New York, N. Y.; Tulsa, Okla.
Export Offices:
Emeric Kroch, 146 Ave. Marie Jose, Woluwe Saint Lambert, Brussels, Belgium.

Sowers Manufacturnig Co.,
1302 Niagara St., Buffalo, N. Y.
Branches:
New York, N. Y.; Boston, Mass.; Toronto, Ontario, Canada.
Export Offices:
467 Bay St., Toronto, Ontario, Canada.

Spang & Co.,
Etna St., Butler, Pa.
Branches:
Casper, Wyo.; Winfield, Kans.; Cisco, Tex.
Distributors:
Through all dealers and supply companies and their branches throughout the United States.
Export Offices:
Handled through main office at Butler, Pa.; Spang & Co., Calgary, Alberta, Canada.

Spang, Chalfant & Co., Inc.,
Clark Bldg., Pittsburgh, Pa.
Branches:
New York, N. Y.; Chicago, Ill.; St. Louis, Mo.; Los Angeles, Calif.; Tulsa, Okla.
Distributors:
National Supply Co., Pittsburgh, Pa. (all branches); Atha Supply Co., Zanesville, Ohio; Bovaird Supply Co., Tulsa, Okla. (all branches); Diamond Supply Co., Charleston, W. Va.; Hercules Supply Co., Fort Worth, Tex.; Keystone Pipe & Supply Co., Butler, Pa.; Wichita Falls, Tex.; Louden Tool Co., Kittanning, Pa.; McEwen Brothers, Bolivar, N. Y.; Wellsville, N. Y.; New Martinsville Supply Co., New Martinsville, W. Va.; Republic Supply Co., Houston, Tex.; Sabine Supply Co., Orange, Tex.; Port Arthur, Tex.; Houston, Tex.; Superior Tube Co., Tulsa, Okla.; Wagner Supply Co., Fort Worth, Tex.
Export Offices:
National Supply Co., London, England.

A. F. Spengler Co.,
1900 Linwood Blvd.,
Oklahoma City, Okla.
Branches:
Marlow, Okla.; Hobbs, N. Mex.; Seminole, Okla.; McPherson, Kans.; Hugoton, Kans.; Pampa, Tex.

Sperry Sun Well Surveying Co.,
1608 Walnut St.,
Philadelphia, Pa.

Springfield Wagon & Trailer Co.,
Springfield, Mo.
Branches:
Dallas, Tex.; Memphis, Tenn.; Amarillo, Tex.
Distributors:
Alex Sterling Co., Houston, Tex.; Epperson & Burnett, El Paso, Tex.; Louis Veglia, New Orleans, La.; Baker Equipment Engineering Co., Richmond, Va.; Charleston, W. Va.; George L. Turner, Inc., Little Rock, Ark.; Resistcor Engineering Corp., Tulsa, Okla.; Fort Smith Automotive Supply Co., Fort Smith, Ark.

Stacy Engineering Co.,
Connersville, Ind. (Blower Div.)
Cincinnati, Ohio (Holder Div.).
Branches:
New York, N. Y.; Chicago, Ill.; San Francisco, Calif.
Export Offices:
All export handled from Connersville, Ind. (Blower Division); Cincinnati, Ohio (Holder Division).

Standard Steel Works,
Sixteenth and Howell Sts.,
North Kansas City, Mo.
Export Office:
Allied Manufacturers Export Co., 225 W. Eighth St., Kansas City, Mo.

Star Drilling Machine Co.,
475 Washington St., Akron, Ohio
Branches:
Chanute, Kans.; Long Beach, Calif.; Portland, Ore.; Wichita Falls, Tex.; Bradford, Pa.
Export Offices:
Star Drilling Machine Co., No. 2 Rector St., New York, N. Y.

Stefco Steel Co.,
Roeske Ave., Michigan City, Ind.
Branches:
Tulsa, Okla.; Dallas, Tex.; Shreveport, La.; St. Louis, Mo.; Chicago, Ill.

George Steiner,
Petroleum Bldg., Houston, Tex.

Sterling Steel Casting Co.,
P. O. Box 66; East St. Louis, Ill.
Branches:
Tulsa, Okla.

Stockham Pipe & Fittings Co.,
P O. Drawer No. 2592,
Birmingham, Ala.
Branches:
Boston, Mass.; Los Angeles, Calif.; Brooklyn, N. Y.; Houston, Tex.; Philadelphia, Pa.; Chicago, Ill.
Distributors:
Jobbers in practically all cities in United States.
Export Offices:
Stockham Pipe & Fittings Co., P. O. Drawer No. 2592, Birmingham, Ala., c-o export manager.

Stoody Co.,
Whittier, Calif.
Branches:
Tulsa, Okla.; New York, N. Y.
Distributors:
Air Reduction Sales Co., Birmingham, Ala.; Mobile, Ala.; Emeryville, Calif.; Los Angeles, Calif.; Chicago, Ill.; Bettendorf, Iowa; Louisville, Ky.; New Orleans, La.; Shreveport, La.; Baltimore, Md.; Boston, Mass.; Detroit, Mich.; Minneapolis, Minn.; St. Louis, Mo.; Jersey City, N. J.; Charlotte, N. C.; Cincinnati, Ohio.; Cleveland, Ohio; Oklahoma City, Okla.; Portland, Ore.; Philadelphia, Pa.; Pittsburgh, Pa.; Nashville, Tenn.; Richmond, Va.; Seattle, Wash.; Wheeling, W. Va.; Milwaukee, Wis.; Pratt Gilbert Hardware Co., Phoenix, Ariz.; El Dorado Foundry, El Dorado, Ark.; Union Belting & Hose Co., El Dorado, Ark.; Edward J. Biord, Eureka, Calif.; Victor Welding Equipment Co., San Francisco, Calif.; Balfour Guthrie & Co., San Francisco, Calif.; R. O. Bossinger, San Francisco, Calif.; Chanslor & Lyon Stores, Inc., San Francisco, Calif.; Continental Steel & Supply Co., San Francisco, Calif.; Marshall & Newall Supply Co., San Francisco, Calif.; National Welding Equipment Co., San Francisco, Calif.; Roberts & Peterson, San Francisco, Calif.; Steuart Oxygen Co., San Francisco, Calif.; Taylor & Spotswood Co., San Francisco, Calif.; Welding Service Co., Inc., San Francisco, Calif.; Stanislaus Auto Supply Co., Stockton, Calif.; Hendrie & Bolthoff, Denver, Colo.; Sports Welding Co., Meriden, Conn.; Burdett Oxygen Co., Atlanta, Ga.; Oklahoma City, Okla.; Chattanooga, Tenn.; Knoxville, Tenn.; Nashville, Tenn.; Lombart Iron & Machine Works, Augusta, Ga.; Willett Brothers, Lewiston, Idaho; Homer & Hughes, Nampa, Idaho; Commercial Acetylene Supply Co., Chicago, Ill.; Great Lakes Supply Co., Chicago, Ill.; Johnson Welding Equipment Co., Chicago, Ill.; Pana Iron Store Co., Pana, Ill.; Cummings & Emerson, Peoria, Ill.; William G. Lex Co., Evansville, Ind.; Wayne Welding Co., Fort Wayne, Ind.; W. J. Holliday & Co., Indianapolis, Ind.; Indiana Oxygen Co., Indianapolis, Ind.; Kansas Oxy-Acetylene, Co. Wichita, Kans.; Massey Hardware Co., Wichita, Kans.; William D. Seymour, New Orleans, La.; Oliver H. Van Horn Co., New Orleans, La.; Woodward, Wight & Co., Ltd., New Orleans, La.; Peerless Supply Co., Shreveport, La.; Oliver H. Van Horn Co., Inc., Shreveport, La.; Brown Wales Co., Lewiston, Me.; Brown Wales Co., Providence, R. I.; Brown Wales Co., Boston, Mass.; C. E. Phillips Co.; Detroit, Mich.; Grand Rapids Welding & Supply Co., Grand Rapids, Mich.; Arvid Wickstrom, Duluth, Minn.; Commercial Gas Co., Minneapolis, Minn.; Williams Hardware Co., Minneapolis, Minn.; Southern Welding Co., Jackson, Miss.; Hohenschild Brothers, Kansas City, Mo.; Kansas City Oxygen Gas Co.; Kansas City, Mo.; Reil Sales Co., Kansas City, Mo.; Ross Frazer Iron Works, St. Joseph, Mo.; Modern Engineering Co., St. Louis, Mo.; Modern Engineering Co., El Paso, Tex.; Motor Supply Co., Missoula, Mont.; Balbach Co., Omaha, Nebr.; International Oxygen Co., Newark, N. J.; Buffalo, N. Y.; Toledo, Ohio; Verona, Pa.; Albany Calcium Light Co., Albany, N. Y.; Root Neal Co., Buffalo, N. Y.; A. J. Wilson Co., New York, N. Y.; Gas Products Co., Cleveland, Ohio; Gas Products Co., Columbus, Ohio; Welders Supply Co., Oklahoma City, Okla.; Tulsa, Okla.; J. E. Haseltine & Co., Portland, Ore.; Clyde Equipment Co., Portland, Ore.; Portland Welders Supply Co., Portland, Ore.; Portland Oxygen Hydrogen Co., Portland, Ore.; Standard Supply & Equipment Co., Philadelphia, Pa.; William M. Orr Co., Pittsburgh, Pa.; Power City Calcium Light Co., Sioux Falls, S. D.; Modern Engineering Co., Memphis, Tenn.; Hays Supply Co., Memphis, Tenn.; John Bouchard & Sons Co., Nashville, Tenn.; Welders Supply Co., Dallas, Tex.; Southwest Hardware & Marine Supply Co., Houston, Tex.; Welders Supply Co., Houston, Tex.; Wessendorf, Nelms & Co., Houston, Tex.; Wichita Falls Oxygen Co., Wichita Falls, Tex.; Galliger Co., Salt Lake, Utah; Southern Oxygen Co., South Washington, Va.; Marshall Wells Co., Aberdeen, Wash.; W. Montelius Price Co., Seattle, Wash.; Barde Steel Co., Seattle, Wash.; Clyde Equipment Co., Seattle, Wash.; Washington Machinery & Supply Co., Spokane, Wash.; Jensen Byrd Co., Spokane, Wash.; Braden Auto Parts Co., Walla Walla, Wash.; Dennis Auto Parts, Wenatchee, Wash.; Yakima Brazing & Welding Co., Yakima, Wash.; Huntington Machine & Forge Co., Huntington, W. Va.; Welding Engineering Co., Milwaukee, Wis.
Export Offices:
Goldsfields Diamond Drilling Co., South Melbourne, Australia; International Machine Co., Rio de Janeiro, Brazil; International Machinery Co., Antofagasta, Chile; International Machinery Co., Santiago, Chile; G. D. Peters & Co., Ltd.; Railway & Engineering Specialties, Ltd., Montreal, Canada; Gordon & Belyea, Vancouver, Canada; Nitrate Agencies, Ltd., Iquique, Chile; Cuban Air Products Corp., Havana, Cuba; Oil Well Engineering Co., Stockport, England; La Soudre Autogene Franciase, Paris, France; Internationale Tiefbohr-Aktien Gesellschaft, Hanover, Germany; Hawaiian Gas Products, Ltd., Honolulu, Hawaii; Mitsui & Co., Ltd., Tokyo, Japan; A. S. Sveise Industri, Oslo, Norway; W. R. Grace & Co., Lima, Peru; Joseph Streda, Ploesti, Rumania.

Stork Engineering Co.,
1212 N. Niagara St.,
Saginaw, Mich.
Distributors:
National Supply Co., Toledo, Ohio; Jarecki Manufacturing Co., Muskegon, Mich.

Strong, Carlisle & Hammond Co.,
1392 W. Third St.,
Cleveland, Ohio.
Branches:
New York, N. Y.; Boston, Mass.; Philadelphia, Pa.; Chicago, Ill.; Pittsburgh, Pa.
Distributors:
Atlas Supply Co. (all branches); Warren & Bailey Co., Los Angeles, Calif.; San Francisco, Calif.; F. W. Heitman Co., Houston, Tex.; Norvell-Wilder Co., Beaumont, Tex.; Weakes Supply, Monroe, La.; National Supply Co. (all branches); Continental Supply Co. (all branches).
Export Offices:
National Supply Co.; Continental Supply Co.

Sullivan Co.,
212 E. Trigg Ave.,
Memphis, Tenn.
Branches:
Houston, Tex.; Tulsa, Okla.; New York, N. Y.; Little Rock, Ark.
Distributors:
Continental Supply Co., St. Louis Mo. (all branches); National Supply Co., Toledo, Ohio (all branches); Oil Well Supply Co., Oil City, Pa. (all branches); Frick-Reid Supply Corp., Pittsburgh, Pa. (all branches); T. T. Word Supply Co., Houston, Tex. (all branches); Pelican Well Tool & Supply Co., Shreveport, La. (all branches); Foxworth-Galbraith Lumber Co., Amarillo, Tex. (all branches); J. S. Pool Lumber Co., Fort Worth, Tex. (all branches) Pickering Lumber Co., Kansas City, Mo. (all branches); Oil Field Lumber Co., Mexia, Tex. (all branches); El Dorado Lumber Co., El Dorado, Ark. (all branches); Monarch Lumber Co., Great Falls, Mont. (all branches); New Martinsville Supply Co., New Martinsville, W. Va.; Prichard Supply Co., Mannington, W. Va.; Industrial Supply Co., Terre Haute, Ind. (all branches); Nicolaysen Lumber Co., Casper, Wyo.; Bradford Supply Co., Bradford, Pa. (all branches); East Arkansas Lumber Co., Lake Providence, La.; Builders Supply Co., Shreveport, La.; Superior Iron Works, Shreveport, La. (all branches); McJunkin Supply Co., Charleston, W. Va. (all branches); R. E. and P. C. Bryan, Owensboro, Ky.; Mims & Glendinning, Suite 1134 Western Pacific Bldg., Los Angeles, Calif.; Republic Supply Co. of California (all branches); Northern Lumber Co., Billings, Mont.; O. L. Sherwood Lumber Co., Hutchinson, Kans. (all branches).
Export Offices:
Oilfield Equipment Co., Inc., 30 Church St., New York, N. Y.; Oil Well Supply Co., Calgary, Alberta, Canada; G. Silvester Supplies, Ltd., Calgary, Alberta, Canada.; Leopoldo Sol & Cia., Calle Cangallo 834, Buenos Aires, Argentina; Bertram W. Deane, P. O. Box 171, Port-of-Spain, Trinidad, British West Indies; R. Morris, Apartado 1174, Tampico, Mexico; Sulco Products of Canada, P. O. Box 2663, Montreal, Canada.

Sullivan Machinery Co.,
400 N. Michigan Ave.,
Chicago, Ill.
Branches:
Birmingham, Ala.; Boston, Mass.; Butte, Mont.; Chicago, Ill.; Claremont, N. H.; Cleveland, Ohio; Dallas, Tex.; Denver, Colo.; Duluth, Minn.; El Paso, Tex.; Huntington, W. Va.; Joplin, Mo.; Knoxville, Tenn.; Los Angeles, Calif.; Muskogee, Okla.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; Pottsville, Pa.; Price, Utah; Salt Lake City, Utah; San Francisco, Calif.; Scranton, Pa.; Spokane, Wash.; St. Louis, Mo.; Terre Haute, Ind.
Distributors:
Sager Spuck Supply Co., Albany, N. Y.; Porter Supply Co., Ashland, Ky.; W. C. Caye Co., Atlanta, Ga.; Industrial Power & Equipment Co., Baltimore, Md.; Granite City Tool Co., Barre, Vt.; Smith Meadow Supply Co., Birmingham, Ala.; Porter Supply Co., Bluefield, W. Va.; Idaho Equipment Co., Boise, Idaho; Waldo Brothers Co., Boston, Mass.; Joseph Fiorello Co., Buffalo, N. Y.; Carolina Tractor & Equipment Co., Charlotte, N. C.; Mills Lupton Supply Co., Chattanooga, Tenn.; Superior Supply Co., Chicago, Ill.; Consolidated Equipment Co., Cincinnati, Ohio; Day & Maddock Co., Cleveland, Ohio; Consolidated Equipment Co., Columbus, Ohio; J. W. Bartholow Co., Dallas, Tex.; Gierke Robinson Co., Davenport, Iowa; Wilson Machinery Co., Denver, Colo.; Globe Machinery & Supply Co., Des Moines, Iowa; Hunter Machinery Co., Detroit, Mich.; Borchert Ingersoll Co., Duluth, Minn.; J. W. Bartholow Co., Fort Worth, Tex.; Hunter Machinery Co., Grand Rapids, Mich.; K. B. Noble Co., Hartford, Conn.;

Porter Supply Co., Huntington, W. Va.; R. B. Everett Co., Houston, Tex.; Joseph C. Fiorello Co., Jamestown, N. Y.; Joplin Supply Co., Joplin, Mo.; Funkhouser Equipment Co., Kansas City, Mo.; Dempster Equipment Co., Knoxville, Tenn.; Frank Wriggle, Little Rock, Ark.; Brown Bevis Co., Inc., Los Angeles Calif.; Roy C. Wheayne Supply Co., Louisville, Ky.; Hunter Machinery Co., Milwaukee, Wis.; McGowin Lyons Co., Mobile, Ala.; Monongahela Supply Co., Morgantown, W. Va.; McCarthy, Jones & Allen, Nashville, Tenn.; Clyde Co., New Orleans, La.; United Hoisting Co., Inc., New York, N. Y.; Wylie Stewart Machinery Co., Oklahoma City, Okla.; American Machinery Supply Co., Omaha, Nebr.; E. F. Pie, Philadelphia, Pa.; Marshall Supply Co., Pittsburg, Kans.; Hunter Machinery Co., Pittsburgh, Pa.; Waldo Brothers Co., Portland, Me.; Clyde Equipment Co., Portland, Ore.; Pottsville Supply Co., Pottsville, Pa.; Motor & Equipment Co., Raleigh, N. C.; Graham B. Bright, Richmond, Va., Standard Equipment & Supply Co., Sacramento, Calif.; Carolina Tractor & Equipment Co., Salisbury, N. C.; Chadwick Machinery Co., San Antonio, Tex.; Standard Equipment & Supply Co., San Francisco, Calif.; Eastern Iron & Metal Co., Salt Lake City, Utah; O. B. Avery Co., St. Louis, Mo.; Borchert Ingersoll Co., St. Paul, Minn.; Clyde Equipment Co., Seattle, Wash.; W. A. Kuhlman Co., Toledo, Ohio; Marshall Supply Co., Tulsa, Okla.; Albert Steinfield & Co., Tucson, Ariz.; Waldo Brothers Co., Worcester, Mass.; J. Walker Wilson Co., Youngstown, Ohio; George Failing, Enid, Okla. (agent for diamond core drills, Mid-Continent Field).

Export Offices:
10 Rue Cavaignac, Algiers, Africa; Antofagasta, Chile; Concepcion, Chile, Iquique, Chile; Valparaiso, Chile; Rue Solon, 22, Athens, Greece; Aptdo. 1659, Bogota, Colombia; Boulevard Anspach, 3 Passages de Postes, Brussels, Belgium; V, Groftisza Istvan-u, 12, Budapest, Hungary; Calle Cangallo, 834, Buenos Aires, Argentina; P. O. Box 2297, Calcutta, India; Caracas, Venezuela; 186 Grande Rue de Pera, Constantinople, Turkey; Electric House, Smith St., Durban, Natal; Edmonton, Alberta, Canada; P. O. Box 78, Honolulu, Hawaii; Geneva House, Johannesburg, Transvaal; Podgorna Poa No. 1, Katowice, Poland; Apartado 1123, Lima, Peru; Rua Dos Remolares, 12, Lisbon, Portugal; Salisbury House, London, E. C. 2, England; Peligros 20, Madrid, Spain; Edificio Cook Dept. 215, Mexico City; Calle Uruguay, 1010, Montevideo, Uruguay; Toldbodgaten 8B, Oslo, Norway; Oruro, Bolivia; 36 Avenue de la Opera, Paris, France; 91 Rua de Sao Pedro, Rio de Janeiro, Brazil; P. O. Box 1146, San Juan, Porto Rico; Calle San Antonio 335, Santiago, Chile; ,Praca Ramos Asevedo, 16, Sao Paulo, Brazil; 4 Yuen Ming Yuen Road, Shanghai, China; P. O. Box 1531 DD, Sydney, Australia; No. 1 Ni-Chome Honcho Nihonbashi-Ku, Tokyo, Japan; 37 Colborne St., Toronto, Canada; Via Perrone No. 4, Turin, Italy; 633 Howe St., Vancouver, British Columbia; 152 Wakefield St., Wellington, New Zealand; General Supply Co. of Canada, Ltd., Moncton, New Brunswick, Canada; General Supply Co. of Canada, Ltd., Montreal, Canada; General Supply Co. of Canada, Ltd., Ottawa, Canada; Dominion Equipment & Supply Co., Winnipeg, Manitoba, Canada.

Sun Shipbuilding & Drydock Co., Foot of Morton Ave., Chester, Pa.
Branch:
New York, N. Y.

Superheater Co., 60 E. Forty-second St., New York, N. Y.
Branches:
Chicago, Ill.; Pittsburgh, Pa.
Distributors:
Broderick Co., Muncie, Ind.; Donovan Boiler Works, Inc., Parkersburg, W. Va.; Farrar & Trefts, Inc., Buffalo, N. Y.; Kewanee Boiler Corp., Kewanee, Ill.; Lucey Manufacturing Co., Chattanooga, Tenn.; Oil Well Supply Co., Oil City, Pa.; Titusville Iron Works Co., Titusville, Pa.
Export Offices:
Superheater Co., Ltd., 276 St. James St., Montreal, Quebec; Superheater Co., Ltd., Bush House, Aldwych, London, W. C. 2, England; Compagnie des Surchauffeurs, Rue la Boetie 3, Paris, France; Schmidt'sche Heissdampf-Gesellschaft, m. b. H. Rolandstrasse 2, Cassel-Wilhelmshohe, Germany; Superheater Co. (Australia), Ltd., Manchester Unity Bldg., 185 Elizabeth St., Sydney, New South Wales.

Sureshot Torpedo, Inc., Box 111, Huntington, W. Va.

Surface Equipment Co., Box 1696, Tulsa, Okla.
Distributors:
Leading supply stores.

Swedish American Prospecting Corp., 26 Beaver St., New York, N. Y.
Branch:
Houston, Tex.
Export Offices:
Swedish American Prospecting Co. of Canada, Ltd., Lumsden Bldg., Toronto, Ontario, Canada; 1224 Twelfth St., W. Calgary, Alberta, Canada; Aktiebolaget Elektrisk Malmletning, Stockholm, I. G., Sweden; Gadelius & Co., Ltd., Tokyo, Japan.

Swindell-Dressler Corp., P. O. Box 1753, Pittsburgh, Pa.
Distributors:
Federal Steam Specialties Co., Oklahoma City, Okla.; Boiler Equipment Service Co., Atlanta, Ga.; J. W. Patton, Texarkana, Ark.; Woodworth Engineering Co., St. Louis, Mo.

T

C. J. Tagliabue Mfg. Co., 540 Park Ave, Brooklyn, N. Y.
Branches:
Shreveport, La.; Birmingham, Ala.; Chicago, Ill.; Cleveland, Ohio; Pittsburgh, Pa.; Portland, Ore.; St. Louis, Mo.; San Francisco, Calif.
Distributors:
Braun Corp., 363 New High St., Los Angeles, Calif.; Buffalo Apparatus Corp., 192 Main St., Buffalo, N. Y.; J. Caire Co., 573 Market St., San Francisco, Calif.; Calkins Co., 934 S. Main St., Los Angeles, Calif., W. H. Curtin & Co., 419 Washington Ave., Houston, Tex.; Denver Fire Clay Co., Denver, Colo.; Denver Fire Clay Co., Salt Lake City, Utah; Graft Pelle Co., 116 N Third St., Louisville, Ky.; Greene Brothers, 620 Ohio St., Wichita Falls, Tex.; Charles H. Harden & Co., 206 First Ave. So., Seattle, Wash.; F. T. Hildred & Co., Sixth and Rosabel St., St. Paul, Minn.; Mason Equipment Co., 1319 Vermont Ave., Toledo, Ohio; Refinery Supply Co., Fourth and Detroit Sts, Tulsa, Okla.; Reichel Korfmann Co., 89 Huron St., Milwaukee, Wis.; H. O. Trerice Co., 1420 Lafayette Blvd. W., Detroit, Mich.; Western Machinery Co., 105 W. Third St., Wichita, Kans.; Woodward Wight & Co., New Orleans, La.
Export Offices:
National Supply Co. (for Argentina), 120 Broadway, New York, N. Y.; Shimadzu Seisakusho, Kyoto, Japan; Fleck Brothers, 110 Alexander St., Vancouver, British Columbia; Francis Shaw & Co., Bradford, Manchester, England; Mathias Mohr, Mainluststr 12, Frankfort, A. M., Germany; Hughes Owens Co., 461 Notre Dame St., W., Montreal, Canada; Giacoma Jucker, Milan, Italy; Page Engineering Co., Melbourne, Australia; C. J. Tagliabue Mfg. Co., 73 Adelaide St., Toronto, Canada.

Taubman Supply Corp., 203 Midco Bldg., Tulsa, Okla.
Branches:
Oklahoma City, Okla.; Seminole, Okla.; Konawa, Okla.; Hobbs, N. M.; Wink, Tex.; Borger, Tex.; Pampa, Tex.; Wichita, Kans.; Hugoton, Kans.; McPherson, Kans.
Manufacturers Represented:
Chapman Valve Mfg. Co., Indian Orchards, Mass. (complete line of steel, brass and iron valves for every purpose); Coffin Valve Co., Indian Orchards, Mass. (valves for industrial and municipal plants); Stockham Pipe & Fittings Co., Birmingham, Ala. (complete line of steel, malleable and iron high-pressure and standard fittings); Edward Valve Mfg. Co., Chicago, Ill. (forged steel and steel cast high-pressure globe and check valves); Republic Steel Corp., Youngstown, Ohio (electric welded pipe and toncan iron pipe); Pittsburgh Steel Products Co., Pittsburgh, Pa. (seamless casing, tubing and drill pipe).

Taylor Forge & Pipe Works, P. O. Box 485, Chicago, Ill.
Branch:
New York, N. Y.
Distributors:
Moorlane Co., 805 Tulsa Loan Bldg., Tulsa, Okla.; Tulsa Boiler & Machinery Co., Tulsa, Okla.

Taylor Instrument Companies, 95 Ames St., Rochester, N. Y.
Branches:
Atlanta, Ga.; Boston, Mass.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Los Angeles, Calif.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; San Francisco, Calif.; St. Louis, Mo.
Distributors:
Acme Engineering Agency, Indianapolis, Ind.; Coon Devisser, Detroit, Mich.; Fort Worth Laboratories, Fort Worth, Tex.; Edward Soph Co., Tulsa, Okla.
Export Offices:
Short & Mason, Ltd., London, England; Taylor Instrument Companies, Toronto, Canada.

Technical Products, Inc., Dallas, Tex.

Templeton, Kenly & Co., Ltd., 1020 S. Central Ave., Chicago, Ill.
Distributors:
National Supply Co. (all branches); Oil Well Supply Co. (all branches); Continental Supply Co. (all branches); Frick-Reid Supply Corp. (all branches); Jarecki Manufacturing Co. (all branches); Republic Supply Co. (all branches); International Supply Co. (all branches); Bovaird & Co. (all branches).
Export Offices:
Baldwin Locomotive Works, National Supply Co.; Oil Well Supply Co., Continental Well Supply Co., Oil Well Engineering Co., Lucey Manufacturing Co.

Terry Steam Turbine Co., Terry Square, Hartford, Conn.
Branches:
New York, N. Y.; Chicago, Ill.; Philadelphia, Pa.
Distributors:
Terry Steam Turbine Co., 305 Bona Allen Bldg., Atlanta, Ga.; 1248 Engineers Bldg., Cleveland, Ohio; 538 U. S. National Bank Bldg., Denver, Colo.; 2447 Woodward Ave., Detroit, Mich.; 637 Michigan Trust Bldg., Grand Rapids, Mich., 912 E. Third St., Los Angeles, Calif.; 117 Liberty St., New York, N. Y.; 610 Michigan St., Milwaukee, Wis.; 311 Ross St., Pittsburgh, Pa.; 301 American National Bank Bldg., Richmond, Va.; Call Bldg., San Francisco, Calif.; 417 S. A. & K. Bldg., Syracuse, N. Y.; Farrell & Jones, 10 High St., Boston, Mass.; Arthur E. Jones & Co., 615 LaFayette Bldg., Buffalo, N. Y.; Dingle Clark Co., 627-28 Union Trust Bldg., Cincinnati, Ohio; A. M. Lockett & Co., Ltd., 603 Magnolia Bldg., Dallas, Tex.; 414 Security Bldg., Galveston, Tex.; 1014 Electric Bldg., Houston, Tex.; 505 Queen & Crescent Bldg., 344 Camp St., New Orleans, La.; 1803 Smith Young Tower, San Antonio, Tex.; E. A. Grimmer, 530 Sutherland Ave., 10, Indianapolis, Ind.; Smiley Equipment Co., 102 Carmen's Bldg., Kansas City, Mo.; F. D. Hassler, 1236 Sterick Bldg., Memphis, Tenn.; Kent Ervin Engineering Co., 732 Builders Exchange Bldg., Minneapolis, Minn.; J. B. Engineering Co., 22 Fountain St., New Haven, Conn.; Gorden & Finkbeiner, 224 Pine St., Portland, Ore.; Midwest Machinery Co., 5473 Delmar Blvd., St. Louis, Mo.; Green Machinery & Mfg. Co., 217 Electric Terminal Bldg., Salt Lake City, Utah; Worthington Machinery Corp. of Oklahoma, 424 N. Boulder Ave., Tulsa, Okla.; J. H. Weir Co., Coal Exchange Bldg., Wilkes-Barre, Pa.
Export Offices:
J. Golder & Co., 10 Broad St. Ave., London E. C. 2, England; Victor G. Mendoza Co., Apartado 1670, Havana, Cuba, 3; Fraser & Chalmers of Canada, Canada Cement Bldg., Montreal, Quebec, Canada; Storey Pump & Equipment Co., 510 King St. West. Toronto, Ontario, Canada.

Texas Electric Service Co., Electric Bldg., Fort Worth, Tex.

Texas Steel Co., Fort Worth, Tex.
Distributors:
T. T. Word & Co., Houston, Tex., Lake Charles, La., Shreveport, La., Seguin, Tex.; Dunnigan Tool & Supply Co., Breckenridge, Tex.; Standard Supply Co., Wichita Falls, Tex.; Atlas Supply Co., Muskogee, Okla.; W. C. Norris, Ada, Okla.
Export Office:
Compania Mexicana de Petroleo, Puerto, Vera Cruz, Mexico.

Timken Roller Bearing Co., Canton, Ohio.
Export Offices:
British Timken, Ltd., Cheston Road, Aston, Birmingham, England; Deutsche Timken Gesellschaft, Berlin, Templhof, Germania Strasse 86, 87, Germany; Societe Anonyme Francaise Timken, 5 and 7, Quai-Aulagnier, Asnieres, Seine, Paris, France.

Titusville Iron Works Co., Titusville, Pa.
Branch:
Tulsa, Okla.
Distributors:
International Supply Co., (for Kansas, Oklahoma, New Mexico and northwest Texas); Mid-Continent Supply Co. (for southeastern Texas, Louisiana and Arkansas); California Machinery & Supply Co. (for California)); Great Northern Tool & Supply Co., Billings, Mont. (for Montana and Wyoming); Republic Supply Co., Houston, Tex., and Tulsa, Okla. (for boilers only).
Export Office:
American Steel Export Co., 535 Fifth Ave., New York, N. Y.

Toledo Pipe Threading Machine Co., 1445 Summit St., Toledo, Ohio.
Branch:
New York, N. Y.
Distributors:
Sold by all leading oil well supply companies.

Trackson Co., 1320 S. First St., Milwaukee, Wis.
Distributors:
J. D. Adams Co., 217 S. Belmont Ave., Indianapolis, Ind.; R. S. Allis Co., Inc., River and James Sts., New Haven, Conn.; Park and Beach Sts., Providence, R. I.; Allied Western Road Machinery Co., 1108 Nicholas St., Omaha, Nebr.; Edward R. Bacon Co., Folsom at Seventeenth St., San Francisco, Calif.; Browning Ferris Machinery Co., 205 Exposition Ave., Dallas, Tex.; 1412 Ennis St., Houston, Tex.; 408 Bedell Bldg., San Antonio, Tex.; Concrete Machinery & Supply Co., 777 E. Gage Ave., Los Angeles, Calif.; Cuyahoga Equipment Co., 3805 Perkins Ave., Cleveland, Ohio; E. T. Darrow & Son, Niagara St., Canadaigua, N. Y.; Dealers Equipment Co., 1434 Riverside Drive, Memphis, Tenn.; Eastern Contractors Equipment Co., Patrick Court Bldg.; Frederick, Md.; Evans Implement Co., 569-71, Whitehall St., Atlanta, Ga.; Gierke Robinson Co., 332 W. Fourth St., Davenport, Iowa; Highway Equipment Co., 919-920 First National Bldg., Columbus, Ohio; Hunter Machinery Co., 221-241 South Waterman Ave., Detroit, Mich, 530-32 Monroe Ave., N. W., Grand Rapids, Mich.; Industrial Machinery Co., 1631-33 Locust St., Kansas City, Mo.; Industrial Tractor & Equipment Co., Inc., 500 Fallsway, Baltimore, Md.; 2119 Spring Grove Ave Cincinnati, Ohio; Jackson Equipment & Service Co., Jackson, Miss.; E. B. Kelly Co., Inc., N. Broadway, Box 22. Albany, N. Y.; McCarthy, Jones & Woodward Co., Inc., 107-111 First Ave., South, Nashville, Tenn.; Fred D. Marshall Co., Columbia, S. C.; Millsaps Road Machinery Co., Twenty-third St. and Twenty-third Ave., Birmingham, Ala.; H. W. Moore Equipment Co., Sixth and Acoma. Denver, Colo.; New England Implement Co., Inc., 22 Garden St., Worcester, Mass.; Northern Road Equipment Co., 82 St. John St., Portland, Me.; Northwest Equipment Co., Great Falls, Mont.; Ohio Valley Truck & Equipment Co., 208 Third St., Marietta, Ohio; Option Equipment & Supply Co., P. O. Box 57, Mt. Oliver Station, Pittsburgh, Pa.; H. O. Penn Machinery Co., Inc., 140th St. and East River, New York, N. Y.; Resistcor Engineering Corp., 301 Oklahoma Natural Gas Bldg., Tulsa, Okla.; Thorman W. Rosholt Co., 928 S. Fourth St., Minneapolis, Minn.; Service Supply Corp., Twentieth and Venango Sts., Philadelphia, Pa.; L. A. Snow Co., 134 International Right-of-Way, Spokane, Wash.; Southern Equipment Co., Inc., 511 N. Solomon St., New Orleans, La.; Steel Products Corp., 919 Texas St., El Paso, Tex.; Tractor & Equipment Co., 551 W. Van Buren St., Chicago, Ill.; 520 Passaic Ave., Newark, N. J.; Valley Equipment Co., 1527 N. Broadway, St. Louis, Mo.; Zimmerman-Steeples Equipment Co., 269 E. Water St., Portland, Ore.; 2717 First Ave., South, Seattle, Wash. Canadian: B. C. Equipment Co., Ltd., 551 Howe St., Vancouver, British Columbia, Canada; Dominion Motor Co., Ltd., Fort St. and Graham Ave., Winnipeg, Manitoba, Canada; Truck & Tractor Equipment Co., Ltd., 661 Queen St., E., Toronto, Ontario, Canada; Maclin Universal Motors, Ltd., First St., W., and Eleventh Ave., Calgary, Alberta, Canada; C. O. Monat & Co., Ltd., 5644 Park Ave., Montreal, Quebec, Canada.
Export Office:
Albert V. Betts, 126 Liberty St., New York, N. Y.

Tret-O-Lite Co., 937 Pacific Ave., Webster Groves, Mo.
Distributors: (Sales Representatives):
J. D. Sanford, 501 World Bldg., Tulsa, Okla.; O. F. Dunafon, 328 E. Pear St., Wewoka, Okla.; D. A. Fell, Third, 1601 S. Seminole St., Wewoka, Okla.; T. H. Herman, Jr., 301 Northeast Twenty-third St., Oklahoma City, Okla.; W. N. Thurston, 2812 N. Robinson, Oklahoma City, Okla.; M. J. Mullally, Duncan, Okla.; K. R. Farr, 1400 Montgomery St., Fort Worth, Tex.; E. H. Dayvault, 1651 Pearl St., Wichita Falls, Tex.; F. C. Gilbert, 105 S. Miller St., Breckenridge, Tex.; C. G. McCaleb, 700 Louisiana Ave., Midland, Tex.; O. L. Bassham, 307 W. Texas St., Midland, Tex.; H. F. Schram, 607 S. Colorado St., Midland, Tex.; Walter Curran, Central Hotel, Wink, Tex.; R. L. Senter, 618 N. West Ave., Pampa, Tex.; H. C. Hamilton, 516 Marine Bank Bldg., Houston, Tex.; C. C. Rogers, Jr., 327 Hammond Ave., San Antonio, Tex.; Q. Mabry, 104 Ireland St., Seguin, Tex.; C. W. Fornes, 911 W. Elm St., El Dorado, Ark.; J. F. Thomas, 315 S. Park Ave., Casper, Wyo.; F. L. Kelley, 4131 E. Douglas St., Wichita, Kans.; W. S. Estep, McConnell Hotel, Eldorado, Kans.; G. W. Camblin, 923 C. C. Chapman Bldg., Los Angeles, Calif.

Trimont Mfg. Co., 55 Amory St., Roxbury, Boston, Mass.
Distributors:
Leading supply companies throughout the oil fields.
Export Offices:
Products can be purchased in Great Britain, Japan, China, France, Australia, South Africa, India, Philippine Islands, Switzerland, Holland, Belgium, Hawaii, Brazil, Chile, Argentina, Straits Settlements and Dutch East Indies, Canada and Mexico.

Truscon Steel Co., Albert St., Youngstown, Ohio.
Branches:
All principal cities.
Export Office:
Truscon Steel Co., 90 West St., New York, N. Y.

Tube-Turns, Inc., 1303 S. Shelby St., Louisville, Ky.
Branches:
New York, N. Y.; Philadelphia, Pa.; Chicago, Ill.
Distributors:
E. F. Keating Co., 542 Water St., New York, N. Y.; L. E. Pitch & Co., Inc., 65 Broad St., Rochester, N. Y.; Park S. Hedley Co., Curtiss Bldg., Buffalo, N. Y.; Baker Supply Co., 145 Broadway, Cambridge, Mass.; Hajoca Corp., 927 N. Ninth St., Philadelphia, Pa.; Heat & Power Corp., 424-28 E. Saratoga St., Baltimore, Md.; Herr-Harris Co., 910 Fulton Bldg., Pittsburgh, Pa.; Himelblau, Agazim & Co., 30 N. Dearborn St., Chicago, Ill.; B. Hoffmann Mfg. Co., 1819 St. Paul Ave., Milwaukee, Wis.; Buck & Stoddard, Inc., 310 Union Oil Bldg., Los Angeles, Calif.; Burnair, Inc., 421 E. Eighteenth Ave., Denver, Colo.; Chattanooga Brazing & Welding Co., 1309 Chestnut St., Chattanooga, Tenn.; Drake Engineering Co., 915 Riebold Bldg., Dayton, Ohio; Ebbert & Kirkman Co., Inc., Brown-Marx Bldg., Birmingham, Ala.; Fort Wayne Pipe & Supply Co., 225-29 E. Columbia St., Fort Wayne, Ind.; Globe Machinery & Supply Co., 205-11 W. Court Ave., Des Moines, Iowa; Grinnell Co., Charlotte, N. C.; Laib Co., 220 E. Indiana St., Evansville, Ind.; Lukens Steel Co., Industrial Canal Box 320, New Orleans, La.; A. Y. McDonald Mfg. Co., 1301 Dodge St., Omaha, Nebr.; Maintenance Engineering Corp., 1400 Conti St., Houston, Tex.; M. S. Maleson Co., Rockefeller Bldg., Cleveland, Ohio; Mason Equipment Co., 1918 Vermont Ave., Toledo, Ohio; Moline Welding Shop, 840 Third Ave., Moline, Ill.; Moorlane Co., 805 Tulsa Loan Bldg., Tulsa, Okla.; C. E. Phillips & Co., 633 W. Larned St., Detroit, Mich.; Ross-Willoughby Co., 269 W. Spring St., Columbus, Ohio; Schilling Pipe Works, 3025 S. Adams St., Peoria, Ill.; B. J. Schneider, Continental Bank Bldg., Indianapolis, Ind.; Seeley & Jones, Inc., 128 Stella St., Bridgeport, Conn.; Shultz & James, 7 N. Sixth St., Richmond, Va.; Stewart Machinery Co., Butler Bldg., St. Louis, Mo.; Swords Brothers Co., 2301 Eleventh St., Rockford, Ill.; United Pipe & Supply Co., Bank of Commerce Bldg., Charleston, W. Va.; Vulcan Copper & Supply Co., 120 Sycamore St., Cincinnati, Ohio.
Foreign Representatives:
International Equipment Co., Royal Bank Bldg., Montreal, Canada; Cuban Air Products Corp., Pi Y Margall (Obispo) 7, Havana, Cuba; Hawaiian Gas Products, Ltd., Honolulu, Hawaii; P. H. Heeney, Apartado 298, Maracaibo, Venezuela, S. A.

Tulsa Boiler & Machinery Co., 2020 S. Union St., Tulsa, Okla.

Tulsa Sheet Metal Co., 13-15 S. Lansing, Tulsa, Okla.

Twin Disc Clutch Co., 1328 Racine St., Racine, Wis.
Branch:
Cleveland, Ohio.
Distributors:
Rapp Huckins Co., Inc., N. Station Industrial Bldg., 138 Beverly St., Boston, Mass.; Edward W. Rode, 45 A St., Buffalo, N.

Y.; Industrial Engine Parts Inc., 1053 E. Sixty-first St., Cleveland, Ohio; Motive Parts Co. of America, Inc., 2419 Indiana Ave., Chicago, Ill.; Whitney Brothers, 6464 Epworth Blvd., Detroit, Mich.; Fort Worth Wheel & Rim Co., 312 Throckmorton, Fort Worth, Tex.; Automotive Equipment & Supply Co., Knoxville, Tenn.; Portable Rig Co., Inc., Houston, Tex.; Coast Machinery Corp., 931 Santa Fe, Los Angeles, Calif.; John Reiner & Co., Inc., 290 Hudson St. at Spring, New York, N. Y.; Maerky Machine Works, 632 Race St., Philadelphia, Pa.; A. H. Krigger & Co., Smithfield and Carson, Pittsburgh, Pa.; F. Somers Peterson Co., 57 California St., San Francisco, Calif.; Pacific Hoist & Derrick Co., 818 First Ave., Seattle, Wash.; Buda Engine Service Co. of Tulsa, Inc., Tulsa, Okla.; Standard Parts Corp., 1806 W. Broad St., Richmond, Va.

U

Union Carbide Sales Co.,
(Unit of Union Carbide & Carbon Corp.)
30 E. Forty-second St.,
New York, N. Y.
Branches:
Atlanta, Ga.; Baltimore, Md.; Birmingham, Ala.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Denver, Colo.; Detroit, Mich.; El Paso, Tex.; Houston, Tex.; Kansas City, Mo.; Los Angeles, Calif.; Memphis, Tenn.; Milwaukee, Wis.; Minneapolis, Minn.; New Orleans, La.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; Salt Lake City, Utah; San Francisco, Calif.; Seattle, Wash.; Tulsa, Okla.
Export Office:
30 E. Forty-second St., New York, N. Y.
Union Machine Co.,
Bartlesville, Okla.
Branch:
Wichita Falls, Tex.
Distributors:
Continental Supply Co. (all Branches).
Export Office:
Continental-Emsco Co., Los Angeles, Calif.; New York, N. Y.
Union Wire Rope Corp.,
3 N. Madison Ave., Tulsa, Okla.
Branches:
Portland, Ore.; Hobbs, N. Mex.
Distributors:
Jarecki Manufacturing Co. (all stores in Mid-Continent and Eastern oil fields).
Export Office:
H. R. Gruber, Sales Manager, 338 Kennedy Bldg., Tulsa, Okla.
United American Bosch Corp.,
Springfield, Mass.
Branches:
Chicago, Ill.; Detroit, Mich.
Distributors:
In principal cities in the United States.
Foreign Offices:
In all principal cities throughout the world.
Universal Oil Products Co.,
310 S. Michigan Ave.,
Chicago, Ill.
Branches:
New York, N. Y.; Los Angeles, Calif.; London, England.
This company does not sell equipment, but licenses the Dubbs oil cracking process to refiners.
U. S. Electrical Manufacturing Co.,
200 E. Slauson Ave.,
Los Angeles, Calif.
Branches:
San Francisco, Calif.; Seattle, Wash.; Portland, Ore.; Chicago, Ill.
Distributors:
Mine & Smelter Supply Co., 121 W. Second St., South, Salt Lake City, Utah; Motor Repair & Supply Co., 2900 Broadway, Denver, Colo.; Consolidated Supply Co., 208 San Francisco St., El Paso, Tex.; Briggs-Weaver Machinery Co., 309 N. Market St., Dallas, Tex.; Houston Armature Works, 4 Preston Ave., Houston, Tex.; Bartlett Electric Co., 418-20 E. Second St., Tulsa, Okla.; S. J. Stewart (Electric), 527 St. Joseph St., New Orleans, La.; Liberty Electric & Mfg. Co., 267 Adams Ave., Memphis, Tenn.; A. A. Electric Machinery Co., 1117 Cherry St., Kansas City, Mo.; American Machinery & Supply Co., 1113-17 Howard St., Omaha, Nebr.; Hugh Electric Co., 731 S. Fourth St., St. Louis, Mo.; Carman & Fryer, 113 N. Noble St., Indianapolis, Ind.; William C. Krauth Electric Co., 113 W. Market St., Louisville, Ky.; Tippins & Sprengle, Inc., Oliver Bldg., Pittsburgh, Pa.; Charles Bond Co., 617 Arch St., Philadelphia, Pa.
Utility Trailer Manufacturing Co., P. O. Box 1407, Arcade Station, Los Angeles, Calif.
Distributors:
Interboro Hoist & Body Corp., Borden Ave. and Van Dam St., Long Island City, N. Y.; Kay-Brunner Steel Products, Inc., 620 S. Delaware Ave., Philadelphia, Pa.; Maryland Truck Equipment Corp., 401 E. Centre St., Baltimore, Md.; Perin-Walsh Co., 1540 Columbus Ave., Boston, Mass.; Schukraft & Co., 1201 Washington Blvd., Chicago, Ill.; Truck Engineering Corp., 1803 E. Thirty-eighth St., Cleveland, Ohio; Omaha Standard Body Co., 2411 W. Broadway, Council Bluffs, Iowa; National Steel Products Co., 1611 Crystal Ave., Kansas City, Mo.; Murry Jacobs Co., 528 First Ave., South, Seattle, Wash.; Leland Equipment Co., P. O. Box 3098, Tulsa, Okla.; Utility Trailer Sales Co., 1600 S. San Pedro St., Los Angeles, Calif.; Utility Trailer Sales Co., 1242 Mission St., San Francisco, Calif.; San Antonio Body Co., 823 Roosevelt Ave., San Antonio, Tex.; Walter E. Pofahl, corner Myrtle Ave. and Campbell St., El Paso, Tex.; Frey the Wheelman, Inc., 520 Ellicott St., Buffalo, N. Y.; Herman Body Co., 4420 Clayton Ave., St. Louis, Mo.;
Export Offices:
Schuman Carriage Co., Ltd., Honolulu, Hawaii; Universal Motor Car Co., Ltd., 444 S. Beretania St., Honolulu, Hawaii; Hayes Manufacturing Co., Ltd., 295 W. Second Ave., Vancouver, British Columbia, Canada; C. A. Henderson, Buenos Aires, Argentina, South America.

V

Vacuum Oil Co.,
61 Broadway, New York, N. Y.
Branches:
Chicago, Ill.; Peoria, Ill.; Milwaukee, Wis.; Detroit, Mich.; Indianapolis, Ind.; Grand Rapids, Mich.; Cleveland, Ohio; Cincinnati, Ohio; Pittsburgh, Pa.; Kansas City, Mo.; Oklahoma City, Okla.; Dallas, Tex.; Houston, Tex.; St. Louis, Mo.; Wichita, Kans.; Minneapolis, Minn.; Des Moines, Iowa; Sioux City, Iowa; Fargo, N. D.; Great Falls, Mont.; New York, N. Y.; Albany, N. Y.; Buffalo, N. Y.; New Haven, Conn.; Boston, Mass.; Portland, Me.; Philadelphia, Pa.; Denver, Colo.
Distributors:
Standard Oil Co. in Pacific coast states and Arizona, Utah, Idaho, Nevada, Nebraska, Kentucky, Alabama, Mississippi, Georgia, Florida, Louisiana, Arkansas, Tennessee, Maryland, New Jersey, District of Columbia, West Virginia, Virginia, North Carolina, South Carolina; Imperial Oil, Ltd., in Canada and New Foundland.
Export Offices:
Branches—Bombay, India; Buenos Aires, South America; Cairo, Egypt; Casablanca, Morocco; Helsingfors, Finland; North China, Shanghai; South China, Hong King, Saigon; French Indo China, Bangkok, Siam, Singapore; Federated Malay States, Batavia, Dutch East Indies; Manila, Philippine Islands; Kobe, Japan; Lisbon, Portugal. Marketers—Vacuum Oil Co., S. A. E., Barcelona, Spain; Vacuum Oil Co., R.T., Budapest, Hungary; Vacuum Oil Co. of South Africa, Ltd., Cape Town, South Africa; Vacuum Oil Co., A. S., Copenhagen, Denmark; Vacuum Oil Co., S. A., Czechowice, Poland; Gibraltar Petroleum Co., Ltd., Gibraltar; Vacuum Oil Co., S. A. I., Genoa, Italy; Deutsche Vacuum Oel, A. G., Hamburg, Germany; Vacuum Oil Co. of Canary Islands, S. A. E., Las Palmas, Canary Islands; Vacuum Oil Co., Ltd., London, England; Vacuum Oil Co. Pty. Ltd., Melbourne, Australia; Norsk Vacuum Oil Co., A. S., Oslo, Norway; Vacuum Oil Co., S. A. F., Paris, France; Vacuum Oil Co., A. Sp., Prague, Czechoslovakia; Vacuum Oil Co., S. A. d. R., Bucharest, Rumania; Vacuum Oil Co., A. B., Stockholm, Sweden; Vacuum Oil Co., A. G., Vienna, Austria; Vacuum Oil Co., D. D., Zagreb, Jugoslavia; Vacuum Oil Co. de Mexico, S. A., Mexico City, Mexico.
Veilumoid Co.,
54 Rockdale St., Worcester, Mass.
Branch:
Detroit, Mich.
Vex Co.,
2221 Laws St., Dallas, Tex.
Branches:
Wichita, Kans.; McPherson, Kans.; Wewoka, Okla.; Shawnee, Okla.; Bristow, Okla.; El Dorado, Ark.; Wink, Tex.; Wichita Falls, Tex.; Big Spring, Tex.; Seguin, Tex.; Refugio, Tex.; Borger, Tex.; Pampa, Tex.; Seal Beach, Calif.
Vickers Machine Works,
Smackover, Ark.
Branch:
Oklahoma City, Okla.
Distributors:
Sold through all supply stores.
Victaulic Co. of America,
26 Broadway, New York, N. Y.
Distributors:
Bell & Gossett Co., 3000 Wallace St., Chicago, Ill.; Case Hardening Service Co., 2281 Scranton Road, Cleveland, Ohio; Ducommun Corp., 219 Central Ave., Los Angeles, Calif.; Hanlon-Waters, Inc., P. O. Box 1404, Tulsa, Okla.; Pittsburgh Supply Co., 435 Water St., Pittsburgh, Pa.; F. S. Van Bergen, 602 Builders Exchange, Minneapolis, Minn.; McJunkin Supply Co., 22 Arcade Bldg., Charleston, W. Va.; Tennessee Mill & Mine Supply Co., 444-446 State St., Knoxville, Tenn.; R. J. Crozier & Co., Fuller Bldg., 10 S. Eighteenth St., Philadelphia, Pa.; Neville & Cleary, Inc., Candler Bldg., Atlanta, Ga.; Neville & Cleary, Inc., Union Indemnity Bldg, New Orleans, La.; Virginia Engineering Co., 323-4 American National Bank, Richmond, Va.; Joy & Cox, Inc., 314 Tramway Bldg., Denver, Colo.
Export Offices:
A. B. Carey, Apartado 35 Bis, Mexico, D. F.; C. H. Elstner, Apartado 284, Monterrey, N. L., Mexico and Apartado 1089, Tampico, Tampa; Victor G. Mendoza, Apartado 1670, Havana, Cuba; H. A. W. Myrin, El Sosneado, Rep. Argentina. South America; D. B. McWilliams, Room 314, Brock Bldg., 200 Bay St., Toronto, Ontario, Canada.
Victor Balata & Textile Belting Co.,
38 Murray St., New York, N. Y.
Branches:
Easton, Pa.; Chicago, Ill.
Victor Welding Equipment Co.,
844 Folsom St.,
San Francisco, Calif.
Distributors:
Tacoma Saw & Supply Co., Taylor Way and E. Eleventh St., Tacoma, Wash.; J. E. Haseltine & Co., Second & Ash Sts., Portland, Ore.; Stoody Co., Whittier, Calif.; Galigher Co., Salt Lake City, Utah; W. S. Hiler & Co., Hobbs, N. Mex.; Devlin Supply Co., 430 Spring Garden St., Philadelphia, Pa.; William M. Orr Co., 1411 Brighton Road, Pittsburgh, Pa.; 1658 St. Clair St., Cleveland, Ohio; Corby Supply Co., 3942 W. Pine Blvd., St. Louis, Mo.; Kansas City Oxygen Gas Co., 2012 Grand Ave., Kansas City, Mo.; Indiana Oxygen Co., 439 Harmon St., Indianapolis, Ind.; W. C. Zickeau, 2525 Stanton Ave., Cincinnati, Ohio; M. A. Foss, Inc., 1901 Arapahoe St., Denver, Colo.; Welders Supply Co., 315 E. Third St., Tulsa, Okla.; 314 W. Reno St., Oklahoma City, Okla.; 1403 Caroline St., Houston, Tex.; 2722 Commerce St., Dallas, Tex.; Airco Magnolia Gas Products, Houston, Tex.
Henry Vogt Machine Co.,
Tenth and Ormsby Ave.,
Louisville, Ky.
Branches:
Philadelphia, Pa.; Cleveland, Ohio; Dallas, Tex.; New York, N. Y.; Chicago, Ill.
Volcano Burner, Inc.,
1789 S. Quincy, Tulsa, Okla.
Distributors:
All supply stores.

W

Wagner Electric Corp.,
6400 Plymouth Ave.,
St. Louis, Mo.
Branches:
Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; Houston, Tex.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Calif.; Memphis, Tenn.; Milwaukee, Wis.; Minneapolis, Minn.; New York, N. Y.; Omaha, Nebr.; Philadelphia, Pa.; Pittsburgh, Pa.; Portland, Ore.; Salt Lake City, Utah; San Francisco, Calif.; Seattle, Wash.; Springfield, Mass.; Toledo, Ohio; Toronto,, Canada.
Distributors:
Casper Supply Co., Casper, Wyo.; Petroleum Electric Co., Tulsa, Okla.; Tinling & Powell Co., Spokane, Wash.; Vinson-Carter Electric Co., Phoenix, Ariz.
Export Office:
183 George St., Toronto, Canada.
Wailes Dove-Hermiston Corp.,
17 Battery Place,
New York, N. Y.
Branches:
Philadelphia, Pa.; Cleveland, Ohio; Chicago, Ill.; San Francisco, Calif.; Tulsa, Okla.; Houston, Tex.; Los Angeles, Calif.
Export Offices:
17 Battery Place, New York, N. Y. English Associates: Wailes Dove Bitumastic, Ltd., Collingwood Bldg., Newcastle-on-Tyne, England.
Wall Rope Works, Inc.,
48 South St., New York, N. Y.
Branch:
Tulsa, Okla.
Distributors:
Atlas Supply Co., Muskogee, Okla. (all branches); Bridgeport Machine Co., Wichita, Kans. (all branches); Bovaird Supply Co., Tulsa, Okla. (all branches); Republic Supply Co., Houston, Tex. (all branches); Hinderliter Tool Co., Tulsa, Okla. (all branches); Western Supply Co., Tulsa, Okla. (all branches); Wagner Supply Co., Fort Worth, Tex. (all branches); Western Drilling Tool & Supply, Chanute, Kans. (all branches); Southwest Supply Co. Bartlesville, Okla. (all branches); Decker Tool & Supply Co., Electra, Tex. (all branches); Bovaird & Co., Bradford, Pa. (all branches); Rope & Cordage Co., Parkersburg, W. Va. (all branches); New Martinsville Supply Co., New Martinsville, W. Va. (all branches); Pelican Well Tool & Supply Co., Shreveport, La. (all branches).
Walworth Co.,
Statler Bldg., Boston, Mass.
Branches:
New York, N. Y.; Boston, Mass.; Long Island City, N. Y.; Chicago, Ill.; Cleveland, Ohio; Los Angeles, Calif.; Seattle, Wash.; San Francisco, Calif.
Export Offices:
Walworth International Co., 11 Broadway, New York, N. Y. Branches—Buenos Aires, Argentina; Calcutta, India; Mexico City, Mexico; Havana, Cuba; Sao Paulo, Brazil; Shanghai, China; Sydney, Australia; Santiago, Chile. Walworth Co., Ltd., Montreal, Canada; Walworth, Ltd., London, Manchester, Glasgow.
Warren Petroleum Co.,
Box 213, Tulsa, Okla.
Distributor:
Western Gasoline Co., Kellyville, Okla.
Watson-Stillman Co.,
75 West St., New York, N. Y.
Branch:
Chicago, Ill.
Distributors:
Smith-Booth-Usher Co., 228 Central Ave., Los Angeles, Calif.; Jenison Machinery Co., 58 Fremont St., San Francisco, Calif.; G. F. Cotter Supply Co., Union National Bank Bldg., Houston, Tex.; Midvale Mining & Mfg. Co., 705 Olive St., St. Louis, Mo.; Cleveland Duplex Machinery Co., W. Third St. at Lakeside Ave., Cleveland, Ohio; J. B. Laird, Union Trust Bldg., Pittsburgh, Pa.; Rucker Engineering Co., Widener Bldg., Philadelphia, Pa.; Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo.; J. R. Walraven, Forsyth Bldg., Atlanta, Ga.; Robinson, Carey & Lands Co., St. Paul, Minn.; D. B. Parker, 4511 Seminary Ave., Richmond, Va.; Ebbert & Kirkman, 321 Brown-Marx Co., Birmingham, Ala.; J. K. Nickerson, First National Bank Bldg., Cincinnati, Ohio; P. W. Schubert, 518 Fourth Ave., Seattle, Wash.; Oil Well Supply Co. (all branches); National Supply Co. (all branches).
Export Offices:
Oil Well Supply Co.; National Supply Co.
Waukesha Motor Co.,
Waukesha, Wis.
Branch:
New York, N. Y.
Distributors:
Bradford Supply Co., Bradford, Pa. (for Ohio, West Virginia, New York and Pennsylvania); Waukesha Ind. Engine Sales & Service Co., 46-48 Natoma St., San Francisco, and 749 Turner St., Los Angeles, (for state of California); Portable Rig Co., Houston, Tex. (covering state of Texas); C. F. Camp Co., Tulsa, Okla. (covering state of Oklahoma); Ingersoll-Rand Co., 11 Broadway, New York, N. Y. (covering export); Massy, Ltd., 34 Marine Square, Port-of-Spain, Trinidad, British West Indies.
Wertzberger Derrick Co.,
715-716 Thompson Bldg.,
Tulsa, Okla.
Branches:
Seminole, Okla.; Oklahoma City, Okla.; Hobbs, N. M.; Arkansas City, Kans.
Westco-Chippewa Pump Co.,
Davenport, Iowa.
Branches:
New York, N. Y.; Chicago, Ill.; San Francisco, Calif.; Davenport, Iowa.
Distributors:
Corken Pump & Machinery Co., 301 Local Bldg., Oklahoma City, Okla.; 301 Commercial Bldg., Tulsa, Okla.; Tennant & Co., Houston, Tex.; San Antonio Machine & Supply Co., San Antonio, Tex.; Southern Engine & Pump Co., Houston, Tex.; Menge Pump & Machinery Co., New Orleans, La.; J. B. Van Horn Co., 310 N. Los Angeles St., Los Angeles, Calif.; Federal Steam Specialties Co., Oklahoma City, Okla.; Forslund Pump & Machinery Co., 3031 Main St., Kansas City, Mo.; Reeves & Skinner Machinery Co., St. Louis, Mo.; Harris Pump & Supply Co., Pittsburgh, Pa.; Strong, Carlisle & Hammond Co., Cleveland, Ohio.
Export Offices:
Victor G. Mendoza Co., Havana, Cuba; Elie Messia Co., Alexandria, Egypt; Norman Engine Co., London, England; Louis Reyes & Co., San Louis Potosi, Mexico; A. Ponce Canton, Merdia, Yucatan, Mexico; Booth, McDonald Co., Christchurch, New Zealand; Fairbanks-Morse Co., Montreal and Winnipeg, Canada.
Westcott & Greis, Inc.,
406 Beacon Life Bldg.,
Tulsa, Okla.
Branches:
Dallas, Tex.; Houston, Tex.; Los Angeles, Calif.
Manufacturers Represented:
Metric Metal Works of American Meter Co. (orifice and positive gas meters); Crosby Steam Gage & Valve Co. (gauges and relief valves); Chaplin - Fulton Mfg. Co. (gas regulators); Davis Regulator Co. (gas and steam regulators); Reliance Mfg. Co. (gas regulators); Meriam Co. (manometers); Bristol Co. (recording and control instruments); American Liquid Meter Co. (oil and gasoline meters); Hydrauger Corp. (boring machines); Robinson Orifice Fitting Co. (orifice Fittings).
Westcott Valve Co.,
Twenty-second and Bond Ave.,
East St. Louis, Ill.
Distributors:
Continental Supply Co., St. Louis Mo. (all stores).
Export Offices:
Continental Supply Co., Ltd., Calgary, Alberta, Canada; Continental-Emsco Co., Inc., New York, N. Y.; Continental-Emsco Co., S. A. R. Ploesti, Rumania.
Western Gas Construction Co.,
2001 E. Pontiac St.,
Fort Wayne, Ind.
West Texas Utilities Co.,
Abilene, Tex.
Westinghouse Electric & Mfg. Co.,
East Pittsburgh, Pa.
Branches:
Abilene, Kans.; Abilene, Tex., Akron, Ohio; Albany, N. Y.; Appleton, Wis.; Atlanta, Ga.; Bakersfield, Calif.; Baltimore, Md.; Beaumont, Tex.; Birmingham, Ala.; Bluefield, W. Va.; Boston, Mass.; Bridgeport, Conn.; Buffalo, N. Y.; Burlington, Iowa; Butte, Mont.; Canton, Ohio; Cedar Rapids, Iowa; Charleston, W. Va.; Charlotte, N. C.; Chattanooga, Tenn; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Columbus, Ohio; Dallas, Tex.; Davenport, Iowa; Dayton, Ohio; Denver, Colo.; Des Moines, Iowa; Detroit, Mich.; Duluth, Minn.; Elmira, N. Y.; El Paso, Tex.; Emeryville, Calif.; Erie, Pa.; Evansville, Ind.; Fairmont, W. Va.; Fergus Falls, Minn.; Fort Wayne, Ind.; Fort Worth, Tex.; Gary, Ind.; Grand Rapids, Mich.; Hammond, Ind.; Houston, Tex.; Huntington, W. Va.; Indianapolis, Ind.; Jackson, Mich.; Jackson, Miss.; Jacksonville, Fla.; Johnstown, Pa.; Joplin, Mo.; Kansas City, Mo.; Knoxville, Tenn.; Los Angeles, Calif.; Louisville, Ky.; Madison, Wis.; Memphis, Tenn.; Miami, Fla.; Milwaukee, Wis.; Minneapolis, Minn.; Nashville, Tenn.; Newark, N. J.; New Haven, Conn.; New Orleans, La.; New York, N. Y.; Niagara Falls, N. Y.; Oklahoma City, Okla.; Omaha, Neb.; Peoria, Ill.; Philadelphia, Pa.; Phoenix, Ariz.; Pine Bluff, Ark.; Pittsburgh, Pa.; Portland, Me.; Portland, Ore.; Providence, R. I.; Pueblo, Colo.; Quincy, Ill.; Raleigh, N. C.; Reading, Pa.; Richmond, Va.; Rochester, N. Y.; Rockford, Ill.; Sacramento, Calif.; Salt Lake City, Utah; San Antonio, Tex.; San Diego, Calif.; San Francisco, Calif.; Scotts Bluff, Neb.; Seattle, Wash.; Shreveport, La.; Sioux City, Iowa; South Bend, Ind.; Spokane, Wash.; Springfield, Ill.; Springfield, Mass.; St. Louis, Mo.; Syracuse, N. Y.; Tacoma, Wash.; Tampa, Fla.; Terre Haute, Ind.; Texarkana, Ark.; Toledo, Ohio; Tulsa, Okla.; Utica, N. Y.; Washington, D. C.; Waterloo, Iowa; Wichita, Kans.; Wilkes-Barre, Pa.; Wilmington, Calif.; Worcester, Mass.; Youngstown, Ohio.
Distributors:
Union Electric Co., Abilene, Kans.; Westinghouse Electric Supply Co., Inc., Albany, N. Y.; Westinghouse Electric Supply Co. of Pennsylvania, Allentown, Pa.; Gilham Electric Co., Atlanta, Ga.; Westinghouse Electric Supply Co of Pennsylvania, Baltimore, Md.; Wetmore-Savage Electric Supply Co., Bangor, Me.; Westinghouse Electric Supply Co., Inc., Binghamton, N. Y.; Moore-Handley Hardware Co., Birmingham, Ala.; Superior Supply Co., Bluefield, W. Va.; Wetmore-Savage Electric Supply Co., Boston, Mass.; Westinghouse Electric Supply Co., Inc., Brooklyn, N. Y.; McCarthy Brothers & Ford, Buffalo, N. Y.; Wetmore-Savage Electric Supply Co., Burlington, Vt.; Westinghouse Electric Supply Co., Butte, Mont.; Moock Electric Supply Co., Canton, Ohio; Westinghouse Electric Supply Co, Charlotte, N. C.; Mills & Lupton Supply Co., Chattanooga, Tenn.; Westinghouse Electric

Supply Co., Inc., Chicago, Ill.; Johnson Electric Supply Co., Cincinnati, Ohio; Westinghouse Electric Supply Co., Cleveland, Ohio; Mann Electric Supply Co., Columbia, S. C.; Hughes-Peters Electric Corp., Columbus, Ohio; Westinghouse Electric Supply Co., Dallas, Tex.; Mine & Smelter Supply Co., Denver, Colo.; Westinghouse Electric Supply Co., Inc., Des Moines, Iowa; Westinghouse Electric Supply Co., Detroit, Mich.; Westinghouse Electric Supply Co., Inc., Duluth, Minn.; Westinghouse Electric Supply Co., Elmira, N. Y.; Mine & Smelter Supply Co., El Paso, Tex.; Star Electrical Co., Erie, Pa.; Westinghouse Electric Supply Co., Evansville, Ind.; Westinghouse Electric Supply Co., Inc., Fargo, N. D.; Westinghouse Electric Supply Co., Flint, Mich.; Westinghouse Electric Supply Co., Grand Rapids, Mich.; Westinghouse Electric Supply Co., Greensboro, N. C.; Mann Electric Supply Co., Greenville, S. C.; Westinghouse Electric Supply Co., Harlingen, Tex.; Westinghouse Electric Supply Co., Houston, Tex.; Banks-Miller Supply Co., Huntington, W. Va.; Westinghouse Electric Supply Co., Indianapolis, Ind.; Westinghouse Electric Supply Co., Jacksonville, Fla.; Jamestown Electrical Supply Co., Jamestown, N. Y.; Columbian Electrical Co., Kansas City, Mo.; Westinghouse Electric Supply Co. of Southern California, Long Beach, Calif.; Westinghouse Electric Supply Co. of Southern California, Los Angeles, Calif.; Tafel Electric Co., Louisville, Ky.; Westinghouse Electric Supply Co., Inc., Madison, Wis.; Westinghouse Electric Supply Co., Inc., Mason City, Iowa; Westinghouse Electric Supply Co., Memphis, Tenn.; Westinghouse Electric Supply Co., Miami, Fla.; Westinghouse Electric Supply Co., Inc., Milwaukee, Wis.; Westinghouse Electric Supply Co., Inc., Minneapolis, Minn.; Westinghouse Electric Supply Co., Inc., Newark, N. J.; Hessel & Hoppen Co., New Haven, Conn.; Electrical Supply Co., New Orleans, La.; Times Appliance Co., Inc., New York, N. Y.; Westinghouse Electric Supply Co., Inc., New York, N. Y.; Westinghouse Electric Supply Co. of Northern California, Oakland, Calif.; Westinghouse Electric Supply Co., Oklahoma City, Okla.; Westinghouse Electric Supply Co., Inc., Omaha, Neb.; Westinghouse Electric Supply Co., Inc., Peoria, Ill.; Westinghouse Electric Supply Co. of Pennsylvania, Philadelphia, Pa.; Westinghouse Electric Supply Co. of Southern California, Phoenix, Ariz.; Iron City Electric Co., Pittsburgh, Pa.; Inter-Mountain Electric Co., Pocatello, Ida.; Fobes Supply Co., Portland, Ore.; Wetmore-Savage Electric Supply Co., Providence, R. I.; Westinghouse Electric Supply Co., Inc., Raleigh, N. C.; Westinghouse Electric Supply Co. of Pennsylvania, Reading, Pa.; Tower-Binford Electric & Mfg. Co., Richmond, Va.; Westinghouse Electric Supply Co. Rochester, N. Y.; Inter-Mountain Electric Co., Salt Lake City, Utah; Westinghouse Electric Supply Co., San Antonio, Tex.; Westinghouse Electric Supply Co. of Northern California, San Francisco, Calif.; Pennsylvania Electrical Engineering Co., Scranton, Pa.; Fobes Supply Co., Seattle, Wash.; Westinghouse Electric Supply Co., Inc., Sioux City, Iowa; Westinghouse Electric Supply Co., Spokane, Wash.; Wetmore-Savage Electric Supply Co., Springfield, Mass.; Westinghouse Electric Supply Co., St. Louis, Mo.; Westinghouse Electric Supply Co., Inc., St. Paul, Minn.; Westinghouse Electric Supply Co., Inc., Syracuse, N. Y.; Westinghouse Electric Supply Co., Tampa, Fla.; Westinghouse Electric Supply Co., Toledo, Ohio; Westinghouse Electric Supply Co., Inc., Trenton, N. J.; Westinghouse Electric Supply Co., Tulsa, Okla.; Westinghouse Electric Supply Co., Inc., Utica, N. Y.; Westinghouse Electric Supply Co. of Pennsylvania, Washington, D. C.; Westinghouse Electric Supply Co., Inc., Waterloo, Iowa; United Electric Co., Wichita, Kans.; Westinghouse Electric Supply Co. of Pennsylvania, Wilmington, Del.; Wetmore-Savage Electric Supply Co., Worcester, Mass.; Westinghouse Electric Supply Co. of Pennsylvania, York, Pa.; Moock Electric Supply Co., Youngstown, Ohio.

Export Offices:
Westinghouse Electric International Co., 150 Broadway, New York, N. Y.; Canadian Westinghouse Co., Ltd., Hamilton, Ontario. Albania—Westinghouse Electric Products, Inc., 26 Rue de la Pepiniere, Paris, France. Argentina — Cia Westinghouse Electric Internacional, S. A., Avenida de Mayo 1035, Buenos Aires; Donado 14, Bahia Blanca, Calle Colon 59, Cordoba; Calle Pas. San Martin, Mendoza; Calle Entre Rios 731, Rosario. Australia—Australian Westinghouse Electric Co., Ltd., Cathcart House, 11 Castlereagh St., Sydney; Temple Court, 428 Collins St., Melbourne. Bahama Islands—John S. George & Co., Nassau. Barbados (B. W. I.)—John F. Hutson. Belgium, Belgian Congo and Luxembourg—J. Delplace, 97 Chaussee de Dinant, Namur. Brazil—Byington & Co., Largo Da Misericordia, 4 Sao Paulo; Rua General Camara 65, Rio de Janerio; Santos, Recife, Porto Alegre, 165 Broadway, New York, N. Y.; Rio Grande do Sul, Curityba, Sao Salvador. Bulgaria—Westinghouse Electric Products, Inc., 26 Rue de la Pepiniere, Paris, France. Chile—Cia. Electrica Westinghouse De Chile, Calle San Antonio 335, Casilla 1897, Santiago; Casilla 570, Antofagasta. China—Hugo Reiss & Co. Federal, Inc., U. S. A., 9 Foochow Road, P. O. Box 1408, Shanghai; Reiss, Massey & Co., Ltd., Exchange Bldg., P. O. Box 78, Hongkong; Chinese Engineering & Development Co., Tientsin. Colombia—Montoya, Del Corral & Co., S. A., 227 Ayacucho, Medellin, 80-88 Wall St., New York, N. Y. Costa Rica—H. T. Purdy, Esquina Aveneda la., y Calle 3a, San Jose. Cuba—Westinghouse Electric International Co., Edificio "La Metropolitana," Presidente Zayas y Perfecto Lacosta, Havana; Calle Jose Antonio Saco, baja 11, Santiago; Edificio Hotel "Suizo," Aparato 103, Santa Clare. Czecho-Slovakia—Ceskomoravska-Kolben Akciova Spolecnost, Prague-Vysocany; Rudolf Guth, Prag II, Zlatnicka 6, Prague. Denmark—Westinghouse Electric International Co., Postboks 736, Oslo, Norway. Dutch East Indies—Dodge & Seymour, Ltd., 10 Sluisbrugstraat, Weltevreden, Java; Loetiongyan, Toendjoengan 12, Soerabaja, Java (Miniature Lamps). Dutch West Indies (Curacao and Aruba)—Rodolfo Pardo, Curacao. Ecuador—Sociedad Continental, Casilla 409, Guayaquil; Quito Electric Light & Power Co., Quito. Finland—Westinghouse Electric International Co., Postboks 736, Oslo, Norway. France—Le Materiel Electrique S. W. 32, Cours Albert I. Paris; Westinghouse Electric Products, Inc., 26 Rue de la Pepiniere, Paris. Greece—Asianides Brothers, Vissis St. No. 7, Athens. Guatemala — Emilio Selle, 10 Calle Oriente Numero 2, Guatemala City. India—Westinghouse Electric International Co., 150 Broadway, New York, N. Y.; 2 Norfolk St., Strand, London, W. C., England; Dodge & Saymour (India), Ltd., 3-10 Tamarind Lane, Fort, Bombay; Waterloo St., Calcutta; Duncan Stratton & Co., 5 Bank St., Bombay. Iraq (Mesopotamia)—Hasso Brothers, New St., Bagdad. Italy—Societa Per Costruzioni Elettro-Meccaniche Di Saronno "Cemsa," Foro Bonaparte No. 51, Milano 109; Laboratorio Elettrotecnico, Ing. Luigi Magrini, S. A., Bergamo. Jamaica—Allan D. Roberts, 76 Harbour St., Kingston (Lamp Distributor). Japan—Ryobi Denki Shokai, seventh floor, Yusen Bldg., Tokyo. Leeward Islands—Stephen R. Mendes, Antigua. Mexico—Cia. Westinghouse Electric International, Edificio Cidosa, Apartado No. 78-Bis, Mexico, D. F.; Edificio Langstroth, Apartado 294, Monterrey, N. L.; Apartado "G" Guadalajara, Jal; Apartado No. 94, Vera Cruz. Netherlands—Westinghouse Electric International Co., 2 Norfolk St., Strand, London, W. C., England; Heemaf (Hengelosche Elektrische En Mechanische Apparaten Fabriek), Hengelo, O. (Railroad Electrifications). Newfoundland—William Heap & Co., Ltd., St. John's; Bowring Brothers, Ltd., St. John's (Lamp Distributor). New Zealand—Turnbull & Jones, Ltd., Wellington, Auckland, Dunedin, Christchurch, Hamilton and Napier; E. J. Hyams, Ltd., Wellington, Auckland and Christchurch (Lamps). Norway—A-S National Industri, Bygdo Allee 1, Oslo. Peru—Emilo F. Wagner y Cia. Edificio Wiese, Esquina Nunez y Filipinas, Lima. Philippine Islands—E. J. Nell Co., 680 Dasmarinas, P. O. Box 1640, Manila; Western Equipment & Supply Co., 119 T. Pinpin, Manila (Lamps and Merchandise Equipment). Poland—Westinghouse Electric Products, Inc., 26 Rue de la Pepiniere, Paris, France. Porto Rico—Porto Rico Railway Light & Power Co., San Juan; Antillas Electric Corp., San Juan. Portuguese East Africa—J. Martin Marques, Ltd., P. O. Box 166, Lourenco Marques. Rumania—Westinghouse Electric Products, Inc., 26 Rue de la Pepiniere, Paris, France. Salvador—William C. McEntee, Santa Ana. Siam—International Engineering Co., Inc., P. O. Box 39, Bangkok. South Africa—Westinghouse Electric Co. of South Africa, Ltd., P. O. Box 6067, Johannesburg; Electrolux of S. A. (Pty.), Ltd., P. O. Box 3657, Johannesburg; Westho Electric Service (Pty.), Ltd., Johannesburg. (Automotive Batteries); Automobile Electric Supply Co., Ltd., Cape Town, Johannesburg, and Durban. (Small Electric Plants and Lamps). Spain—Constructora Nacional de Maquinaria Electrica, Apartado 4086, Madrid. Straits Settlements and Federated Malay States—Dodge & Seymour, Ltd., Laidlaw Bldg., Singapore. Sweden—Westinghouse Electric International Co., Postboks 736, Oslo, Norway. Switzerland—W. Schutz, 10 Ave. L. Ruchonnet, Lausanne, Switzerland. Turkey—Westinghouse Electric Products, Inc., 26 Rue de la Pepiniere, Paris, France. United Kingdom and Ireland—Westinghouse Electric International Co., 2 Norfolk St., Strand, London, W. C. Uruguay—Serratosa & Castells, 18 de Julio 1491, Montevideo. Venezuela—C. Adrianza & Co., Inc., 25 Beaver St., New York, N. Y. (Represented through Dimas, Pineda & Co., Maracaibo). Yugoslavia—Westinghouse Electric Products, Inc., 26 Rue de la Pepiniere, Paris, France.

Whealton & Townsend, Inc., Ltd., 694 Subway Terminal Bldg., Los Angeles, Calif.
Branch:
Tulsa, Okla.

White Co., Cleveland, Ohio.
Branches:
Albany, N. Y.; Atlanta, Ga.; Baltimore, Md.; Birmingham, Ala.; Boston, Mass.; Bronx, N. Y.; Brooklyn, N. Y.; Bridgeport, Conn.; Buffalo, N. Y.; Camden, N. J.; Charlotte, N. C.; Chattanoogs, Tenn.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Columbus, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; Duluth, Minn.; El Paso, Tex.; Erie, Pa.; Fort Worth, Tex.; Fresno, Calif.; Harrisburg, Pa.; Hartford, Conn.; Houston, Tex.; Huntington, W. Va.; Indianapolis, Ind.; Jacksonville, Fla.; Kansas City, Mo.; Knoxville, Tenn.; Little Rock, Ark.; Los Angeles, Calif.; Louisville, Ky.; Memphis, Tenn.; Miami, Fla.; Milwaukee, Wis.; Minneapolis, Minn.; Nashville, Tenn.; Newark, N. J.; New Haven, Conn.; New Orleans, La.; New York, N. Y.; Norfolk, Va.; Oakland, Calif.; Oklahoma City, Okla.; Omaha, Nebr.; Philadelphia, Pa.; Pittsburgh, Pa.; Portland, Ore.; Providence, R. I.; Reading, Pa.; Richmond, Va.; Rochester, N. Y.; St. Louis, Mo.; St. Paul, Minn.; Sacramento, Calif.; Salt Lake City, Utah; San Diego, Calif.; San Francisco, Calif.; Scranton, Pa.; Seattle, Wash.; Shreveport, La.; Spokane, Wash.; Springfield, Mass.; Syracuse, N. Y.; Tampa, Fla.; Toledo, Ohio; Tulsa, Okla.; Utica, N. Y.; Washington, D. C.; Waterbury, Conn.; Wichita, Kans.; Wilkes-Barre, Pa.; Wilmington, Del.; Worcester, Mass.

Export Offices:
35-10 Thomson Ave., Long Island City, N. Y.; 824 E. Seventy-ninth St., Cleveland, Ohio; La Automortiz Cia. Anom. de Automobiles, Ciencias 46, Maracaibo, Venezuela; Buxton Guilayn & Cia, Suipacha 602 Esq. Tucuman, Buenos Aires, Argentine; J. & J. Drysdale & Cia, 440 Peru man, Buenos Aires, Argentina; Sindicato Nacional de Comercio Apartado 857 Barranquilla, Colombia; Antonio Pureto & Cia, S. A., P. O. Box 331, Bogota, Colombia; White Service of Mexico, S. A., Apartado 980, Tampico, Mexico; Apartado 470, Monterrey, Mexico.

White Oak Refining Co., Fourteenth Floor Hunt Bldg., Tulsa, Okla.
Branches:
New York, N. Y.; Chicago, Ill.; Minneapolis, Minn.; Houston, Tex.; Los Angeles, Calif.
Refineries:
Allen, Okla.; Oklahoma City, Okla.; Luling, Tex.; Brownwood, Tex.
Export Offices:
Subsidiary of Gulf States Terminal & Transport Co., export terminal at New Orleans, La.

Wickwire Spencer Steel Co., 41 E. Forty-second St., New York, N. Y.
Branches:
Los Angeles, Calif.; San Francisco, Calif.
Distributors:
Wickwire Spencer Sales Corp., Tulsa, Okla.; Acme Tool Co., Breckenridge, Tex.; T. T. Word Supply Co., Houston, Tex.; Lucey Products Corp., Tulsa, Okla.; Iverson Tool Co., Tulsa, Okla.; Standard Supply & Hardware Co., New Orleans, La.; A. F. Keck & Co., Butler, Pa.
Export Office:
Wickwire Spencer Steel Co., 41 E. Forty-second St., New York, N. Y.; cable address, Wickspen.

Wico Electric Co., Springfield, Mass.
Branches:
Tulsa, Okla.; Los Angeles, Calif.
Distributors:
National Supply Co., Toledo, Ohio, and all branches.
Export Offices:
National Supply Corp., 120 Broadway, New York, N. Y.; National Supply Corp.; River Plate House, Finsbury Circus, London, E. C. 2, England; Wico Electric Co., Chase Estate, Park Royal Road, London, N. W. 10, England.

Williams Brothers, Inc., 425 Exchange Bank Bldg., Tulsa, Okla.

Williamsport Wire Rope Co., Williamsport, Pa.
Branches:
Ardmore, Okla.; Arkansas City, Kans.; Blackwell, Okla.; Borger, Tex.; Casper, Wyo.; Electra, Tex.; Houston, Tex.; Hobbs, N. M.; Lewistown, Mont.; Maud, Okla.; Oklahoma City, Okla.; Odessa, Tex.; Pampa, Tex.; Seminole, Okla.; Shidler, Okla.; Shreveport, La.; San Antonio, Tex.; Tulsa, Okla.; Wink, Tex.; Wichita Falls, Tex.; Chicago, Ill.
Distributors:
Bridgeport Machine Co., Wichita, Kans., and all its Mid-Continent branches.

Wilson-Snyder Manufacturing Corp., First and Talbot Sts., Braddock, Pa.
Branches:
New York, N. Y.; Chicago, Ill.; Tulsa, Okla.; Houston, Tex.
Distributors:
Murray Tool & Supply Co., Cleveland, Okla., and stores in Mid-Continent oil fields; Wilson Supply Co.; Houston, Tex., and stores in Gulf Coast oil fields; Oil Well Supply Co. (all stores).
Export Offices:
Wilson-Snyder Manufacturing Corp., New York, N. Y.; Oil Well Supply Co. (foreign branches).

Wilson Welder & Metal Co., Wilson Bldg., 956 Thirty-eighth St., North Bergen, N. J.
Distributors:
Machine distributors:
Austin-Hastings Co., Inc., 226 Binney St., Kendall Square, Cambridge, Mass.; Jenison Machinery Co., 58 Fremont St., San Francisco, Calif.; Smith-Booth-Usher Co., 228 Central Ave., Los Angeles, Calif.; Oliver H. Van Horn Co., Inc., 522 Camp St., New Orleans, La., 311 Market St., Shreveport, La.; Joseph T. Ryerson & Son, Inc., Sixteenth and Rockwell Sts., Chicago, Ill., Bailey Ave and Stanley St., Box 996, Buffalo, N. Y., Nineteenth and S. Canal St., Milwaukee, Wis., 2208 N. Second St., St. Louis, Mo.; 1918 Grant Bldg., Pittsburgh, Pa., 1103 Plymouth Bldg., Minneapolis, Minn., Front and Freeman Sts., Cincinnati, Ohio, Fifty-second and Grays Ave., Philadelphia, Pa., 404 W. First St., Duluth, Minn., E. Fifty-third and Lakeside Ave., Cleveland, Ohio., 4511 Seminary Ave., Richmond, Va., Seventeenth and Champa Sts., Denver, Colo., 1500 E. Euclid Ave., Detroit, Mich., 203 West Side Ave., Jersey City, N. J., 410 Atlas Life Bldg., Tulsa, Okla.
Wire distributors:
Austin-Hastings Co., Inc., 226 Binney St., Kendall Square, Cambridge, Mass.; Peter A. Frasse & Co., Inc., 7 Grand St., New York, N. Y., 50 Exchange St., Buffalo, N. Y., 3717 Wissahickon Ave., Philadelphia, Pa., 135 Walnut St., Hartford, Conn.; J. G. Christopher Co., 422 E. Bay St., Jacksonville, Fla.; G. A. Post Co., Inc., 136 Liberty St., New York, N. Y. (Steam Railroads); Sligo Iron Store Co., 1301 N. Sixth St., St. Louis, Mo.; Smith-Booth-Usher Co., 228 Central Ave., Los Angeles, Calif.; Steel Sales Corp., 129 S. Jefferson St., Chicago, Ill.; Charles A. Strelinger Co., 149 E. Larned St., Detroit, Mich.; Jenison Machinery Co., 58 Fremont St., San Francisco, Calif.; Johnson Welding & Supply Co., 1526 Third Ave., North, Birmingham, Ala.; Oliver H. Van Horn Co., Inc., 522 Camp St., New Orleans, La., 311 Market St., Shreveport, La., Franklin Ave and Austin St., Houston, Tex.; Williams & Co., Inc., 901 Pennsylvania Ave, N. S., Pittsburgh, Pa., 1748-56 E. Twenty-second St., Cleveland, Ohio, 2118 Spring Grove Ave., Cincinnati, Ohio; Welders Supply Co., 317 E. Third St., Tulsa, Okla., 1403 Caroline St., Houston,, Tex., 2722 Commerce St., Dallas, Tex.
Export Offices:
Machine and wire distributors: American Trading Co. of Japan, Ltd., 96 Wall St., New York, N. Y.; Amsterdam Kantoor voor Indische Zaken (Dutch East Indies), Agent: B. G. D. Ter Braake, 154 Nassau St., New York, N. Y.; Baldwin Locomotive Works, Philadelphia, Pa.; International Railway Supply Co., 30 Church St., New York, N. Y.; G. D. Peters & Co., Ltd., 3 Central Bldgs., Westminster, London, S. W. 1, England; G. D. Peters & Co., Ltd., New Birks Bldg., Montreal, Canada.

Winkler-Koch Engineering Co., 335 W. Lewis St., Wichita, Kans.
Distributors:
Frank de Ganahl, 5934 Grand Central Terminal Bldg., New York, N. Y.
Export Offices:
A. F. Craig & Co., Ltd., Paisley, Scotland; A. F. Craig & Co., Ltd., 70 Victoria St., S. W. 1, London, England.

W-K-M Co., Inc., 220 Roberts St., Houston, Tex.
Branches:
Tulsa, Okla.; Chicago, Ill.
Distributors:
Leading supply companies.
Export Office:
W-K-M Co., Inc., 74 Trinity Pl., New York, N. Y.

Wood Shovel & Tool Co., Piqua, Ohio.

Worthington Pump & Machinery Corp., Worthington & Harrison Aves., Harrison, N. J.
Branches:
Atlanta, Ga.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Seattle, Wash.; Tulsa, Okla.; Washington, D. C.; Cincinnati, Ohio; Cleveland, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; El Paso, Tex.; Houston, Tex.; Pittsburgh, Pa.; St. Louis, Mo.; St. Paul, Minn.; Salt Lake City, Utah; San Francisco, Calif.; Kansas City, Mo.; Los Angeles, Calif.; New Orleans, La., New York, N. Y.; Philadelphia, Pa.
Distributors:
Hawkeye Supply Co., 1265 Nineteenth St., Mason City, Iowa; Nelson Machinery Co., 123 N. Pearl St., Green Bay, Wis.; American Machinery Co., 103 W. Water St., Milwaukee, Wis.; I. W. Downing Pump Co., Milwaukee, Wis.; Robert Rom Co., 1023 St. Paul Ave., Milwaukee, Wis.; Jennison Hardware Co., 901-907 Water St., Bay City, Mich.; Detroit Excavating Machinery Co., 804 Hofman Bldg., Detroit, Mich.; Hayden Supply Co., 240 Pearl St., Grand Rapids, Mich.; Factory Supply Co., 942 Terrace St., Muskegon, Mich.; A. Harvey's Sons Manufacturing Co., 210 First St., Toledo, Ohio; National Supply Co., 3320 Bishop St., Toledo, Ohio; M. I. Wilcox Co., 530 Virginia St., Toledo, Ohio; Speer Hardware Co., 205-213 Rogers Ave., Fort Smith, Ark.; Lewis Supply Co., P. O. Box 608, Helena, Ark.; Crane Co., 515 E. Second St., Little Rock, Ark.; Hollis & Co., 305-311 E. Markham St., Little Rock, Ark.; Arkansas Mill Supply Co., Inc., Fourth and Louisiana St., Pine Bluff, Ark.; Henry A. Petter Supply Co., 117-119 S. First St., Paducah, Ky.; Schweitzer Brothers, 421 Campbell Ave., Springfield, Mo.; French Gerigman Electric Co., St. Louis, Mo.; Jarecki Manufacturing Co., Chemical Bldg., St. Louis, Mo.; N. O. Nelson Manufacturing Co., 690 Linden Ave., Memphis, Tenn.; Riechman Crosby Co., 223-229 S. Front St., Memphis, Tenn.; Landreth Machinery Co., 301 E. Fourth St., Joplin, Mo.; Interstate Machinery & Supply Co., 1006-10 Douglas St., Omaha, Nebr.; Bovaird Supply Co., 113 N. Main St., Sapulpa, Okla.; Bovaird Supply Co., 904 Mid-Continent Bldg., Tulsa, Okla.; Ferguson Supply Co., Corner Ninth Ave. and Fifth St. West, Calgary, Alberta, Canada; Kipp Kelly, Ltd., 68 Higgins Ave., Winnipeg, Manitoba, Canada; I. E. Swift Co., Houghton, Mich.; W. P. & R. S. Mars, 404 W. First St., Duluth, Minn.; W. S. Nott Co., 201 N. Third St., Minneapolis, Minn.; Wisconsin River Valley Supply Co., Wausau, Wis.; Crane Co., Thirtieth & First Aves., Billings, Mont.; Anaconda Copper Mining Co., Butte, Mont.; Crane Co., Great Northern R. W. Yards, Great Falls, Mont.; Missoula

Mercantile Co., Missoula, Mont.; Keener Machinery Co., Ogden, Utah; Crane Co., 307 W. Second St., Salt Lake City, Utah; Mine & Smelter Supply Co., 121 W. Second St., Salt Lake City, Utah; California Machinery & Supply Co., 2424 Hunter St., Los Angeles, Calif.; Haverty Co., Eighth & Maple Ave., Los Angeles, Calif.; Howe Brothers, 1198 S. San Pedro St., Los Angeles, Calif.; Lohman Brothers, 232 S. Spring St., Los Angeles, Calif.; Oil Well Supply Co., 934 N. Alameda, Los Angeles, Calif.; Pacific Pipe & Supply Co., 1002 Santa Fe Ave., Los Angeles, Calif.; Robert M. Hartwell Co., 253 E. Second St., Los Angeles, Calif.; Smith Booth Usher, 228 S. Central Ave., Los Angeles, Calif.; U. S. Equipment Co., 501 W. Washington, Los Angeles, Calif.; Western Enterprise Engineering Co., 1000 Alhambra, Los Angeles, Calif.; Contractors Equipment & Machinery Co., Box 62, San Diego, Calif.; National Supply Co. of California, Torrance, Calif.; I. S. Geer & Co., Burns, Ore.; Oregon Machinery Co., Eugene, Ore.; Harry A. Broad, Portland, Ore.; Douglas Hardware Co., Douglas, Ariz.; Tarr, McComb & Ware, Kingman, Ariz.; Roy & Titcomb, Inc., Nogales, Ariz.; Pratt Gilbert Hardware Co., Central Ave., Phoenix, Ariz.; Vermeesch, Inc., P. O. Box 1978, Phoenix, Ariz.; Arizona Mine Supply Co., N. Cortes St., Prescott, Ariz.; J. Knox Corbett Hardware & Lumber Co., P. O. Box 2287, Tucson, Ariz.; J. Korber & Co., Alberquerque, N. Mex.; E. Cosgrove, Inc., Silver City, N. Mex.; Iverson Tool Co., Tulsa, Okla.; Mine & Smelter Supply Co., 410 San Francisco St., El Paso, Tex.; R. D. Grier & Sons Co., Church St. and R. R. Ave., Salisbury, Md.; D. S. Meadows Co., 19 Church Ave., East Roanoke, Va.; Tidewater Supply Co., 427 E. Water St., Norfolk, Va.; Virginia Machinery & Well Co., 1319 E. Main St., Richmond, Va.; Nolan Co., 11-13 W. Salem Ave., Roanoke, Va.; Young & Vann Supply Co., 1731 First Ave., Birmingham, Ala.; Cameron & Barkley Co., 338 E. Bay St., Jacksonville, Fla.; J. G. Christopher Co., 416-422 E. Bay St., Jacksonville, Fla.; Mine & Mill Supply Co., W. Main St. and Central Ave., Lakeland, Fla.; Cameron & Barkley Co., 127-129 N. W. First St., Miami, Fla.; L. D. Llewellyn, 1030 N. Miami Ave., Miami, Fla.; Llewellyn Machinery Corp., 1030 N. Miami Ave., Miami, Fla.; Farm & Home Machinery Co., 420 W. Robinson Ave., Orlando, Fla.; Cameron & Barkley Co., 107 S. Franklin St., Tampa, Fla.; Florida Machinery & Supply Co., P. O. Box 32, Tampa, Fla.; R. S. Armstrong & Brothers, 676 Marietta St., Atlanta, Ga.; General Fire Extinguisher Co., 276 Marietta St., Atlanta, Ga.; J. M. R. & S. Tull Co., 285 Marietta St., Atlanta, Ga.; Lombard Iron Works & Supply Co., 630 Eleventh St., Augusta, Ga.; Moss Brothers Machinery & Supply Co., P. O. Box 505, Columbus, Ga.; Battey Machinery Co., Second Ave., Rome, Ga.; John D. Robinson, 11 W. Bay St., Savannah, Ga.; Asheville Supply & Foundry Co., Market & Eagle Sts., Asheville, N. C.; Charlotte Electric Repair Shop, W. Trade St., Charlotte, N. C.; Textile Mill Supply Co., 1200-1212 S. Mint St., Charlotte, N. C.; Cape Fear Supply Co., 225 Williams St., Fayetteville, N. C.; Dewey Brothers, Inc., George St., South Goldsboro, N. C.; General Fire Extinguisher Co., P. O. Box 336, North Charlotte, N. C.; Dillon Supply Co., South West St., Raleigh, N. C.; Electric Motor & Repair Co., P. O. Box 907, Raleigh, N. C.; Hyman Supply Co., 215 N. Front St., Wilmington, N. C.; Kester Machinery Co., 430 Main St., Winston Salem, N. C.; Sullivan Hardware Co., 201 S. Main St., Anderson, S. C.; Bailey Lebby Co., 182-184 Meeting St., Charleston, S. C.; Cameron & Barkley Co., 160 Meeting St., Charleston, S. C.; Ticewater Supply Co., 1224 Lincoln St., Columbia, S. C.; Carolina Supply Co., Box 602, Greenville, S. C.; Turner Supply Co., St. Louis and Commerce Sts., Mobile Ala.; Pump & Equipment Co., Garde Bldg., New London, Conn.; Allen Engineering Sales Co., 142 Berkeley St., Boston, Mass.; Braman Dow & Co., 239 Causway St., Boston, Mass.; A. W. Chesterton & Co., 81-83 Pearl St., Boston, Mass.; Harrison Supply Co., Dorchester Ave., Boston, Mass.; C. L. Howes, 314 Atlantic Ave., Boston, Mass.; Robbins Phalon Co., 32 Oliver St., Boston, Mass.; Smith Engineering Co., 429 Cambridge St., Boston, Mass.; Louis E. Tracy Co., 414 Atlantic Ave., Boston, Mass.; Baker Supply Co., 145 Broadway, Cambridge, Mass.; W. M. Field & Sons, Inc., 39 Hayward St., Cambridge, Mass.; Johnson Pump & Repair Co., 39 Hayward St., Cambridge, Mass., Babbitt Steam Specialty Co., 55-57 S. Water St., New Bedford, Mass.; Robbins Gamwell Co., 68 West St., Pittsfield, Mass.; Brierly-Lombard Co., 27-29 Waldo St., Worcester, Mass.; Lincoln & Lane, 30 Bayley St., Pawtucket, R. I.; General Fire Extinguisher Co., 260 W. Exchange St., Providence, R. I.; Providence Mill Supply Co., 68 W. Exchange St., Providence, R. I.; R. I. Supply & Sprinkler Co., 156 W. Exchange St., Providence, R. I.; William J. Inglis, Inc., Barre, Vt.; Rackliffe Brothers Co., Inc., 250 Park St., New Britain, Conn.; Meier Andres Belting Co., 128-30 Mulberry St., Newark, N. J.; William S. Roe, Inc., 15-31 River St., Newark, N. J.; Central Supply Co., 838-856 Main Ave., Passaic, N. J.; Duro Pump & Engineering Co., Central Railway Terminal, Albany, N. Y.; Fulton County Machinery & Supply Co., Clinton St., Cloversville, N. Y.; Kendall-Larman Corp., Potsdam, N. Y.; Troy Belting & Supply Co., 6-9 Grand St., Troy, N. Y.; Charles Millar & Son, 501 Main St., Utica, N. Y.; Louden Tool Co., Kittanning, Pa.; David Davies, P. O. Box 141, Plymouth, Pa.; Pennsylvania Electrical Engineering Co., Scranton, Pa.; Charles Miller & Son, Susquehanna St., Binghamton, N. Y.; J. A. Webb Belting Co., 45 Pearl St., Buffalo, N. Y.; R. B. Moore, P. O. Box 8, Bolivar, N. Y.; C. R. Tatem, 484 Main St., East Aurora, N. Y.; Hauser Machinery Co., 117-121 Platt St., Rochester, N. Y.; Bovaird & Seyfang Mfg. Co., Davis St., Bradford, Pa.; Bradford Supply Co., 130 Main St., Bradford, Pa.; Oil Well Supply Co., 98 Main St., Bradford, Pa.; Standard Sanitary Mfg. Co., 128-130 W. Twelfth St., Erie, Pa.; Delaware Electric & Supply Co., 209-11 Shipley St., Wilmington, Del.; Carey Machinery & Supply Co., 119-21 E. Lombard St., Baltimore, Md.; Warren, Balderston & Co., Jackson and Mercer Sts., Trenton, N. J.; William H. Taylor & Co., Inc., 250-56 Hamilton St., Allentown, Pa.; Delta Equipment Co., 148 N. Third St., Philadelphia, Pa.; Berks Engineering Co., Sixth and Chestnut Sts., Reading, Pa.; Reading Engineering Works, 32 N. Second St., Reading, Pa.; E. Keeler Co., 238 West St., Williamsport, Pa.; George C. Ruby, 370 N. George St., York, Pa.; Colonial Supply Co., 217 Water St., Pittsburgh, Pa.; Frick-Reid Supply Corp., 117 Sandusky St., N. S., Pittsburgh, Pa.; Jarecki Manufacturing Co., 311 First Ave., Pittsburgh, Pa.; Oil Well Supply Co., 215 Water St., Pittsburgh, Pa.; Ruthledge Equipment Co., 341 Blvd. of the Allies, Pittsburgh, Pa.; Somers, Filter & Tool Co., 313-27 Water St., Pittsburgh, Pa.; Baldwin Supply Co., 518 Capital St., Charleston, W. Va.; Capital City Supply Co., Broad and Smith Sts., Charleston, W. Va.; Hardware & Supply Co., 475-525 S. High St., Akron Ohio; Manufacturers Rubber & Supply Co., 82 S. Howard St., Akron, Ohio; Manufacturers Rubber & Supply Co., 704 Tuscarawas W., Canton, Ohio; Universal Valve & Fittings Co., E. Thirty-eighth St. and New York Central Railroad, Cleveland, Ohio; Osborne & Sexton Machinery Co., Fourth and Russell Sts., Columbus, Ohio; Sharp Mfg. & Supply Co., South Broadway, New Philadelphia, Pa.; Wayne Belting & Supply Co., 123 E. Columbia St., Fort Wayne, Ind.; Alvah H. Terry, Jr., 702 Louisville Trust Bldg., Louisville, Ky.; Harrison Tire & Rubber Co., Twelfth and Parkway, Cincinnati, Ohio; E. A. Kinsey, 331-335 W. Fourth St., Cincinnati, Ohio; Kelso Wagner Co., 134 W. Second St., Dayton, Ohio; Patterson Tool & Supply Co., 123-125 E. Third St., Dayton, Ohio; Standard Supply Co., 1004-1012 Findlay St., Portsmouth, Ohio; James Supply Co., 1104-1110 Market St., Chattanooga, Tenn.; W. J. Savage Co., Inc., 219 W. Clinch Ave., Knoxville, Tenn.; Keeth Simmons Co., 10-13 Cummins Station, Nashville, Tenn.; Bluefield Hardware Co., Inc., 200-208 Bluefield Ave., Bluefield, W. Va.; Branchland Supply Co., 1019 Seventh Ave., Huntington, W. Va.; W. D. Allen Mfg. Co., 566-570 W. Lake St., Chicago, Ill.; George B. Carpenter & Co., 430-440 N. Wells St., Chicago, Ill.; Chicago Engineering Supply Co., 22 W. Austin Ave., Chicago, Ill.; Crane Co., 836 S. Michigan Ave., Chicago, Ill.; Fred C. Kramer & Co., 218-224 N. Jefferson St., Chicago, Ill.; McMaster Carr Supply Co., 640 W. Lake St., Chicago, Ill.; Bacon Electric Co., Chillicothe, Ill.; Robert Holmes & Brother, Inc., 250 Junction Ave., Danville, Ill.; Field & Shorb Co., 133 W. Williams St., Decatur, Ill.; Samuel E. Nims, 414 Mead Bldg., Rockford, Ill.; Great Lakes & Supply Co., 9342 Ewing Ave., South Chicago, Ill.; South Bend Supply Co., 324-326 S. St. Joseph St., South Bend, Ind.; Electrical Engineering & Construction Co., Thirteenth and Walnut Sts., Des Moines, Iowa; Leighton Supply Co., 1224-36 First Ave., Fort Dodge, Iowa; Smith Meadows Supply Co., 1629 Ave. A. S., Birmingham, Ala.; Hutchens Co., Hutchens Bldg., Huntsville, Ala.

Export Offices:
Queen's House, Kingsway, London, W. C. 2 England; 1 Rue des Italiens, Paris, France; Reichstrats-Strasse 7, Vienna; 22 Rue de L'Autonomie, Bruxelles, Belgium; Gronblom Abo and Helsingfors, Finland; Quitzow Strasse, 3-7 Berlin, Hohenschonhausen, Germany; 15-A Rue Edward Law, Athens, Greece; Keizersgracht 745, Amsterdam, Holland; Baczi-ut 4, Budapest, Hungary; Via Boccaccio No. 21, Milan 117, Italy; A. Rotter, engineer, Casuta Postala No. 384, Bucharest, Rumania; Marques de Cubas, 8, Madrid, Spain; Plaza Universidad, 2, Barcelona, Spain; Don Juan de Austria, 25, Valencia, Spain; Agar, Cross & Co., Ltd., Buenos Aires, Argentina; Paraguay, Baburizza, Petrinovic y Cia., Antonfagasta, Chile; Bolivia, Avenda Rio Blanco, 9, Rio de Janeiro, Brazil; 1 Rue des Italiens, Paris, France; 104 Aguiar, Havana, Cuba; Santiago, Chile; Inquique, Chile; Guayaquil, Ecuador; Guatemala City, Guatemala, Honduras, Salvador; 16 de Septiembre, 5, Mexico, D. F. Mexico; Lima, Peru; San Juan, Porto Rico; Port-of-Spain and San Fernando, Trinidad; Cairo, Egypt; 88 Fox St., Johannesburg, South Africa; Manila, Philippine Islands; Shanghai, China; 10 Clive St., Calcutta, India; Asian Bldg., Nicol Road, Ballard estate, Bombay, India; Tokyo, Japan; Osaka, Japan; Lawson House, 49 Clarence St., Sydney, Australia; Honolulu, Hawaii; Societeistraat 22, Soerabaja, Java.

Wright Machine Co., Inc., Owensboro, Ky.
Distributors:
Bridgeport Machine Co., Wichita, Kans. (all branches).

Wright Mfg. Co., 929 Connecticut Ave., Bridgeport, Conn.
Branches:
Chicago, Ill.; New York, N. Y.; San Francisco, Calif.

Wyatt Metal & Boiler Works, Dallas, Tex.
Branches:
Factory and office, Houston, Tex.

Y

Young Engine Corp., 2110 Allen Ave., S. E., Canton, Ohio.
Distributors:
Branchland Supply Co., Huntington, W. Va.; Federal Supply & Machine Co., Winfield, Kans.; Lawrenceville Machine Co., Lawrenceville, Ill.

Youngstown Sheet & Tube Co., Stambaugh Building, Youngstown, Ohio.
Branches:
Atlanta, Ga.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; Kansas City, Mo.; Los Angeles, Calif.; Minneapolis, Minn.; New Orleans, La.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; San Francisco, Calif.; Seattle, Wash.; St. Louis, Mo.; Youngstown, Ohio.
Distributors:
Continental Supply Co., 1501 Locust St., St. Louis, Mo. (distributed at all stores); International Supply Co., Tulsa, Okla. (distributed at all stores); Republic Supply Co., 2122 E. Seventh St., Los Angeles, Calif. (Pacific Coast).
Export Offices:
Continental Emsco Co., 74 Trinity Place, New York, N. Y.; Youngstown Steel Products Co., Dashwood House, Old Broad St., London, E. C., England.

Z

John Zink Co., Oklahoma Natural Gas Building, Tulsa, Okla.

VALUE!

This directory of oil equipment manufacturers and their products is but one of the many special services offered to regular subscribers of The Oil and Gas Journal.

SUBSCRIBE NOW by filling out the coupon

Please enter my subscription effective with the current issue. Later I will remit:

[ ] $3 for 6 months [ ] $6 for 1 year
(CHECK TERM OF SUBSCRIPTION DESIRED)

Name .....

Title or Occupation .....
(THIS IS ESSENTIAL FOR OUR RECORDS)

Company .....

Subscription Address .....

City ..... State .....

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Report for Month of October

Runs

	Month (bbls.)	Dy. Av. (bbls.)
Prairie P. L. Co.	3,131,000	101,000
Gulf P. L. Co.	1,304,473	42,080
Texas P. L. Co.	662,580	21,406
Magnolia P. L. Co.	1,526,813	49,252
Empire P. L. Co.	1,941,657	62,634
Cosden P. L. Co.	964,324	31,107
Stanolind P. L. Co.*	2,797,750	90,250
Oklahoma P. L. Co.	2,265,807	73,091
Other lines	5,607,900	180,900
Total October	20,303,304	651,720
Total September	19,907,520	663,584
Difference	295,784	11,864

Shipments

Prairie P. L. Co.	3,015,849	97,285
Gulf P. L. Co.	1,554,155	50,134
Texas P. L. Co.	1,402,414	45,239
Magnolia P. L. Co.	1,670,595	53,890
Empire P. L. Co.	2,199,420	70,949
Cosden P. L. Co.	868,359	28,012
Stanolind P. L. Co.*	3,264,951	105,321
Oklahoma P. L. Co.	2,259,384	72,899
Other lines	5,797,000	187,000
Total October	22,032,627	710,729
Total September	22,227,564	740,918
Difference	194,937	30,189

Stocks

Prairie O. & G. Co.*	37,795,000
Gulf P. L.-Gypsy Oil Co.	7,850,531
The Texas Company	2,953,520
Magnolia Petroleum Co.	5,650,076
Empire P. L. Co.	5,038,296
Mid-Continent Pet. Corp.	3,701,536
Stanolind Crude Oil Pur. Co.*	19,560,000
Oklahoma P. L. Co.	2,822,113
Carter Oil Co.	9,786,911
Other lines	23,928,000
Total October	120,126,073
Total September	120,894,006
Difference	767,963

*Estimated. Prairie and Stanolind shipments include Texas crude oil.

EASTERN PIPE LINE REPORT FOR MONTH OF NOVEMBER

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for October and November:

	Oct., 1930	Nov., 1930
Nat. Transit	135,934.32	104,496.10
S. W. Pa. P. L.	82,961.29	71,488.99
Eureka P. L.	329,128.04	272,972.79
Buckeye P. L. (Macksburg)	354,552.32	293,767.83
Buckeye P. L. (Cleveland)	12,508.84	9,244.34
Buckeye P. L. (Lima, etc.)	94,154.99	72,798.02
Indiana P. L.	4,483.35	3,171.88
Cumberland P. L.	172,782.21	157,587.04
N. Y. Transit	35,614.60	28,186.00
Tide Water P. L.	27,863.60	22,612.53
Pure Oil	189,448.04	190,625.17
Stoll Oil Ref.	19,496.16	27,202.39
Bradford Tran.	344,649.34	315,826.43
Total	1,803,576.80	1,569,979.51
Daily average	58,179.89	52,332.65

Note—Indian Refining Co. had other receipts of 280,337.14 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for October and November:

	Oct., 1930	Nov., 1930
Nat. Transit	479,245.86	402,823.28
S. W. Pa. P. L.	187,406.27	243,629.09
Eureka P. L.	247,321.25	193,900.15
Buckeye P. L. (Macksburg)	317,217.64	246,434.15
Buckeye P. L. (Cleveland)	2,200.10	1,949.80
Buckeye P. L. (Lima, etc.)	1,029,180.06	1,138,273.04
Indiana P. L.	548,201.97	360,294.63
Cumberland P. L.	126,573.84	96,581.63
Southern P. L.	69,576.30	34,921.19
N. Y. Transit	169,187.25	182,392.43
Northern P. L.	80,085.21	69,933.33
Tide Water P. L.	574,109.31	164,443.71
Pure Oil	274,485.43	295,355.25
Indian Ref.	334,226.70	269,600.16
Bradford Tran.	263,300.96	356,796.37
Tuscarora Oil	285,721.78	342,813.68
Total	4,887,939.93	4,399,141.89
Daily average	157,675.48	146,638.06

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky and Indiana at the close of October and November:

	Oct., 1930	Nov., 1930
Nat. Transit	830,161.58	823,583.04
S. W. Pa. P. L.	543,474.82	432,055.87
Eureka P. L.	1,483,216.69	1,501,400.77
Buckeye P. L. (Macksburg)	656,581.88	547,588.35
Buckeye P. L. (Cleveland)	65,770.92	43,726.09
Buckeye P. L. (Lima, etc.)	4,992,794.24	4,632,221.25
Indiana P. L.	795,428.98	748,856.72
Cumberland P. L.	521,537.42	567,723.01
Southern P. L.	265,170.20	315,451.62
N. Y. Transit	178,747.41	126,550.60
Northern P. L.	459,246.38	508,980.64
Tide Water P. L.	811,218.64	976,186.74
Pure Oil	433,436.65	332,491.81
Indian Ref.	61,037.68	71,646.44
Tuscarora Oil	104,667.41	16,477.12
Bradford Tran.	235,074.97	216,140.95
Total	12,437,555.87	11,851,380.92
Decrease	374,463.12	586,174.95

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of October and November showing gross stocks of the above fields:

	Oct., 1930	Nov., 1930
Pennsylvania	3,961,667.74	3,970,186.37
Lima	845,272.27	752,285.03
Kentucky	594,637.03	626,748.00
Mid-Continent	6,611,577.52	6,155,312.11
Illinois	3,102.03	24,171.92
Michigan	421,299.28	322,677.49
Total	12,437,555.87	11,851,380.92

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1927	1928	1929	1930
January	56,209	52,904	51,749	75,907
February	61,298	57,002	51,833	79,256
March	63,247	57,485	54,252	76,688
April	60,927	56,812	58,444	84,536
May	60,284	62,067	59,902	80,548
June	62,757	58,230	58,833	75,430
July	58,674	57,144	56,087	68,921
August	60,870	57,745	56,087	64,291
September	60,285	53,487	67,315	56,596
October	147,080	58,100	76,093	58,179
November	57,275	53,865	74,831	52,332
December	59,089	52,025	74,561	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1927	1928	1929	1930
January	141,227	146,465	165,721	217,623
February	138,534	167,368	159,387	224,355
March	133,777	158,883	161,474	228,846
April	140,227	172,935	169,737	241,845
May	144,594	180,559	184,281	248,383
June	149,772	188,024	185,404	234,401
July	151,850	189,470	194,763	207,094
August	188,653	192,853	184,946	205,506
September	144,213	194,138	201,214	193,999
October	147,036	176,000	191,367	157,675
November	150,975	176,898	202,743	146,638
December	144,504	173,572	186,357	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1928	1929	1930
January	12,276,710	7,596,564	12,220,048
February	12,180,419	8,738,835	12,991,561
March	12,239,735	9,002,053	13,247,217
April	11,740,125	8,978,173	13,282,961
May	11,602,468	8,903,560	13,052,958
June	11,287,678	8,921,275	12,396,855
July	10,819,331	9,211,595	12,268,562
August	10,236,748	9,440,643	13,047,051
September	9,660 910	9,443,067	12,812,018
October	9,229,709	9,441,101	12,437,555
November	8,366,553	9,868,533	11,851,380
December	7,539,555	11,253,953	.....

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, November 30	3,006,922.99
Runs from wells	402,182.15
Other receipts	315,102.33
Regular deliveries	354,615.45
Other deliveries	357,218.11

The amount of Illinois oil run by the Tide Water Pipe Co. in November was 22,612.53 bbls. Deliveries were 27,863.60 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

	Runs	Deliveries
1930—		
November	424,794.68	355,403.12
1929—		
February	517,320.17	503,387.79
March	728,219.67	536,049.58
April	515,374.27	654,297.96
May	608,981.50	672,812.83
June	568,454.70	818,845.97
July	611,106.79	828,159.44
August	625,351.99	746,425.06
September	582,457.56	669,947.72
October	622,302.83	553,558.65
November	565,108.75	427,064.63
December	548,924.41	489,868.81
1930—		
January	543,387.95	498,293.92
February	548,416.33	414,526.59
March	631,944.49	469,119.53
April	530,074.22	509,304.60
May	605,147.37	504,069.84
June	572,662.57	468,658.81
July	604,529.54	388,454.47
August	594,642.12	376,742.43
September	457,001.11	371,491.63
October	378,442.12	320,688.73

Tide Water Pipe Co., Ltd., also delivered in November, 678,217.66 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA CRUDE AND REFINED OIL AT ATLANTIC AND GULF PORTS

Average barrels per day in 1929-30—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
November	15,900	3,167	41,667	14,699	3,767	82,300	.....	.....	.....	.....	2,400	84,600
December	13,968	.....	46,129	13,613	7,325	79,935	.....	.....	.....	.....	2,335	82,290
January	18,484	1,936	34,257	22,323	9,516	86,516	.....	.....	.....	.....	2,258	88,774
February	7,678	.....	24,714	14,321	5,000	51,714	.....	.....	.....	.....	2,667	54,321
March	10,548	3,065	28,871	8,774	22,484	73,742	.....	.....	.....	.....	805	74,548
April	7,767	.....	14,369	11,600	7,433	41,167	.....	.....	.....	.....	7,600	48,767
May	5,194	3,451	28,161	3,484	2,774	54,064	.....	.....	.....	.....	774	54,838
June	8,300	.....	33,933	20,767	2,333	65,333	.....	.....	.....	.....	2,400	67,733
July	17,355	7,774	43,419	23,839	6,452	98,839	.....	.....	.....	.....	4,645	103,484
August	7,418	3,742	38,968	21,326	5,258	81,613	.....	.....	.....	.....	97	81,710
September	6,300	6,400	25,600	13,400	9,567	61,267	.....	.....	.....	.....	2,433	63,700
October	2,516	3,065	27,258	16,419	4,903	54,161	.....	.....	.....	.....	5,355	59,516

AVERAGE DAILY IMPORTS OF CRUDE AND REFINED OIL AT PRINCIPAL UNITED STATES PORTS

Average barrels per day in 1929-30—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
November	23,633	18,900	125,200	41,100	28,300	237,033	2,233	12,533	6,667	2,500	23,933	260,966
December	29,774	15,387	133,742	31,000	23,775	233,678	5,548	16,484	6,613	1,774	30,419	264,097
January	21,161	10,678	134,581	33,677	43,806	243,903	4,322	6,453	.....	548	11,323	260,226
February	24,500	14,714	147,357	36,036	39,786	262,933	2,821	11,072	3,500	1,964	19,357	281,750
March	28,355	3,329	151,506	36,645	34,903	255,548	4,323	11,645	839	2,419	19,226	274,774
April	31,400	8,933	123,500	40,433	19,434	223,700	.....	7,400	3,433	4,167	14,000	237,700
May	24,129	9,322	174,194	39,291	28,226	275,161	8,194	11,548	2,935	1,323	24,000	299,161
June	51,533	15,667	121,067	45,033	25,033	258,333	4,413	17,367	2,167	1,333	25,200	283,663
July	42,097	9,548	154,968	37,935	36,032	280,580	5,678	9,161	2,097	2,387	19,323	299,903
August	39,032	4,484	146,613	32,355	25,097	247,581	5,419	9,323	3,548	3,000	20,290	276,871
September	38,867	8,533	156,933	34,500	25,567	258,400	6,433	12,234	.....	1,800	22,467	280,867
October	19,839	11,742	146,194	35,355	26,967	240,097	6,065	7,967	2,774	2,545	18,451	258,548

GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

(In Barrels of 42 Gallons)

1929-30—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
November:	Month	21,317,540	19,193,760	24,896,034	3,430,560	1,911,060	1,853,565	2,350,110	4,029,000	78,981,629
	Daily average	710,585	639,792	829,868	114,352	63,702	61,785	78,337	134,300	2,632,730
December:	Month	21,705,554	20,092,876	25,609,823	3,549,066	1,917,071	1,878,352	2,378,754	4,168,100	81,299,596
	Daily average	700,179	648,156	818,394	114,486	61,841	60,592	76,734	134,455	2,622,568
January:	Month	21,983,242	20,802,984	25,284,352	3,273,197	1,817,685	1,780,969	2,151,090	4,216,000	81,309,519
	Daily average	709,137	671,064	815,624	105,587	58,635	57,451	69,390	136,000	2,622,888
February:	Month	20,885,660	17,977,624	23,314,637	2,965,704	1,608,376	1,738,425	2,027,984	3,780,000	74,298,410
	Daily average	745,916	642,058	832,665	105,918	57,442	62,087	72,429	135,000	2,653,517
March:	Month	19,699,979	19,112,306	25,503,880	3,504,395	1,817,871	1,943,092	2,337,028	4,231,500	78,149,253
	Daily average	635,483	616,526	822,679	113,045	58,641	62,680	75,388	136,500	2,520,942
April:	Month	18,768,743	19,541,310	24,799,768	3,734,253	1,724,460	1,909,552	2,334,810	4,134,000	76,946,896
	Daily average	625,625	651,377	826,658	124,475	57,482	63,652	77,827	137,800	2,564,897
May:	Month	19,044,444	20,587,503	26,214,068	3,978,385	1,659,895	1,914,290	2,565,319	4,402,000	80,365,804
	Daily average	614,337	664,113	845,616	128,335	53,545	61,751	82,749	142,000	2,592,445
June:	Month	18,030,795	19,754,900	25,443,705	3,765,060	1,704,060	1,922,621	2,519,190	4,330,000	77,311,331
	Daily average	600,693	658,496	854,791	126,502	56,802	64,187	82,973	129,300	2,573,711
July:	Month	18,802,024	18,032,514	25,910,929	3,541,409	1,713,680	2,079,769	3,275,894	3,844,000	77,200,219
	Daily average	606,517	581,694	835,835	114,239	55,280	67,089	105,674	124,000	2,490,328
August:	Month	18,770,466	17,255,034	25,538,613	3,491,530	1,700,102	2,151,120	3,193,341	3,417,000	75,517,106
	Daily average	605,499	556,614	823,823	112,630	54,842	69,391	103,011	110,226	2,436,036
September:	Month	17,984,306	16,509,120	23,640,726	3,405,510	1,583,280	2,008,060	3,339,010	3,396,000	71,766,012
	Daily average	599,477	550,304	788,022	113,517	52,776	66,935	107,967	113,200	2,392,199
October	Month	18,244,053	16,632,523	23,378,035	3,571,913	1,636,552	2,142,885	3,225,550	3,627,000	72,956,511
	Daily average	588,518	536,533	770,259	115,223	52,792	69,125	104,050	117,000	2,353,500
Total 12 months		235,226,808	225,492,454	300,234,470	42,210,982	20,794,152	23,323,701	31,597,980	47,134,600	926,004,285